

# Service Manual

## Volume 1

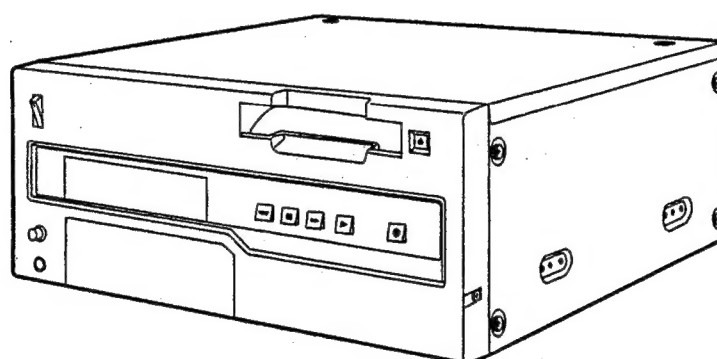
- Sec. 1** *Operating Instructions*
- Sec. 2** *Service Information*
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**DVCPRO**

Digital Video Cassette Recorder

**AJ-D650E**

**AJ-D640E**



Please refer to the Service Manual Volume 2 (order No. VSD9612MJ01B) for block diagrams, schematic diagrams and circuit board diagrams.

**Panasonic**

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# Specifications

## GENERAL

Power supply:	AC 220 V – 240 V $\pm$ 10%, 50 – 60 Hz
Power consumption:	150 W

Operating ambient temperature:	5°C to 40°C
Operating ambient humidity:	10% to 90% (no condensation)
Weight:	16 kg
Dimensions (W×H×D):	424×175×415 mm
Recording format:	DVCPRO format
Recording tracks:	Digital video
	<b>Time code</b> Recorded in sub-code area
	<b>Digital audio</b> 2 channels
	<b>Cue Track</b> 1 track
	<b>Control (CTL)</b> 1 track
Tape speed:	33.854 mm/sec
Recording time:	General purpose cassette; Max. 123 minutes
	News-gathering cassette; Max. 63 minutes
Tape:	1/4-inch thin magnetic layer metal tape
FF/REW time:	Less than 3 min (with general purpose cassette) Less than 2 min (with news-gathering cassette)
Search speed:	0 to $\pm 60\times$ normal speed (colour)
Digital slow motion:	$+0.75\times$ normal speed in + direction $-0.43\times$ normal speed in – direction
Editing accuracy:	$\pm 0$ frame (using time code)
Tape timer accuracy:	$\pm 1$ frame (using continuous CTL signal)
Servo lock time:	Less than 0.5 sec. (colour framing/standby ON)

## VIDEO

(Digital video)

Sampling frequencies:	Y: 13.5 MHz/Pb, Pr: 3.375 MHz
Quantizing:	8 bits
Error correction:	Reed-Solomon product code

(Digital IN/analog component OUT)

Video bandwidth:	Y: 25 Hz to 5.5 MHz ( $\pm 1.0$ dB) Pb, Pr: 25 Hz to 1.3 MHz ( $\pm 1.0$ dB)
S/N ratio:	Better than 60 dB
K factor:	Less than 2%

(Analog component IN/component OUT)

Video bandwidth:	Y: 25 Hz to 5.5 MHz ( $-1.5$ dB to $+1.0$ dB) Pb, Pr: 25 Hz to 1.3 MHz ( $-2.0$ dB to $+1.0$ dB)
S/N ratio:	55 dB (Typ)
K factor:	Less than 2%

(Analog composite IN/composite OUT)

Video bandwidth:	Y: 25 Hz to 5.5 MHz ( $-3.0$ dB to $+1.0$ dB)
Y/C delay:	Better than 20 ns
K factor:	Less than 3%

(Video input connector)

Analog component input:	BNCx3 (Y, Pb, Pr) Y: 1.0 Vp-p, 75 $\Omega$ Pb, Pr: 0.7 Vp-p 75 $\Omega$ (100% colour bar)
Analog composite input:	BNCx2, loop-through, 75 $\Omega$ on/off
S VIDEO input:	S terminal (4-pin)x1 Y: 1.0 Vp-p, 75 $\Omega$ C: 0.3 Vp-p (burst), 75 $\Omega$
Reference input:	Analog composite BNCx2, loop-through, 75 $\Omega$ on/off
Serial digital component input (option):	Complies with EBU Tech. 3267-E, BNCx2, active through

(Video output connector)

Analog component output:	BNCx3 (Y, Pb, Pr) Y: 1.0 Vp-p, 75 $\Omega$ Pb, Pr: 0.7 Vp-p 75 $\Omega$ (100% colour bar)
Analog composite output:	BNCx3 Video1/video2/video3 (superimpose on/off)
S VIDEO output:	S terminal (4-pin)x1 Y: 1.0 Vp-p, 75 $\Omega$ C: 0.3 Vp-p (burst), 75 $\Omega$
Serial digital component output (option):	Complies with EBU Tech. 3267-E, BNCx3

(Video signals adjustment)

Video output gain:	$\pm 3$ dB
Video output chroma gain:	$\pm 3$ dB
Video output hue:	$\pm 30^\circ$
Video output setup:	$\pm 100$ mV
Video output sync phase:	$\pm 2$ $\mu$ s
Video output SC phase:	$\pm 180^\circ$

Control from ENCODER  
REMOTE connector

## AUDIO

(Digital audio)

Sampling frequencies:	48 kHz
Quantizing:	16 bits
Frequency response:	20 Hz to 20 kHz ( $-1.0$ dB to $+0.5$ dB)
Dynamic range:	Better than 86 dB (1 kHz, emphasis OFF, "A" weighted)
Distortion:	Less than 0.1% (1 kHz, emphasis OFF, standard level)
Crosstalk:	Less than $-80$ dB (1 kHz, between 2 channels)
Wow & flutter:	Below measurable limits
Headroom:	18 dB
De-emphasis:	T1=50 $\mu$ s/T2=15 $\mu$ s (on/off automatic)

(Cue track)

Frequency response:	300 Hz to 6 kHz $\pm 3$ dB
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(Audio input connector)

Analog input (CH1/CH2):	XLRx2, 600 $\Omega$ /high impedance selectable, $+4/0/-20/-60$ dBu
Digital input (CH1/CH2) (option):	BNCx1, AES/EBU format
Serial digital input (option):	Complies with EBU Tech. 3267-E (BNC)

(Audio output connector)

Analog output (CH1/CH2):	XLRx2, low impedance, $+4/0/-20$ dBu
Digital output (CH1/CH2) (option):	BNCx1, AES/EBU format
Serial digital output (option):	Complies with EBU Tech. 3267-E (BNC 75 $\Omega$ )
Monitor output:	Phonox1, 600 $\Omega$ , $-8$ dBV
Headphones:	Variable level, 6 mm phone, 8 $\Omega$

## Other input/output connector

Time code input:	BNCx1, 0.5 to 8 Vp-p
Time code output:	BNCx1, 2.0 Vp-p
RS-422A input/output:	D-sub 9-pin, RS-422A interface
RS-232C:	D-sub 25-pin, RS-232C interface
Encoder remote:	D-sub 15-pin

Weight and dimensions when shown are approximately.  
Specifications are subject to change without notice.

# SAFETY PRECAUTIONS

## GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

## LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 M $\Omega$  and 5.2 M $\Omega$ .  
When the exposed metal does not have a return path to the chassis, the reading must be  $\infty$ .

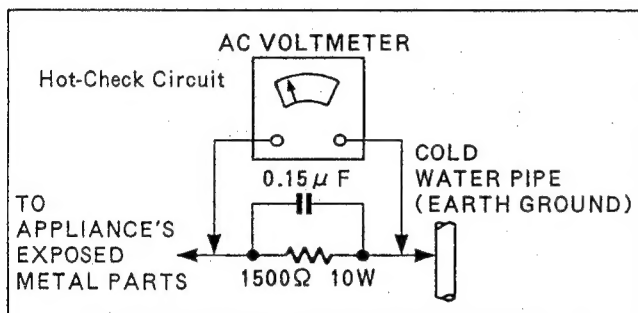


Figure 1

## LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet.  
Do not use an isolation transformer for this check.
2. Connect a 1.5 K $\Omega$ , 10 W resistor, in parallel with 0.15  $\mu$  F capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

## ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.  
Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.  
**CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

## X-RADIATION

### WARNING

1. The potential source of X-Radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.  
**NOTE:** It is important to use an accurate periodically calibrated high voltage meter.
3. Measure the High Voltage. The meter (electric type) reading should indicate 2.5kV,  $\pm$  0.15kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

## IMPORTANT

"Unauthorized recording of copyrighted television programs, video tapes and other materials may infringe the right of copyright owners and be contrary to copyright laws."

### ■ THIS APPARATUS MUST BE EARTHED

To ensure safe operation the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal house-hold wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

### ■ DO NOT REMOVE PANEL COVER BY UN-SCREWING

To reduce the risk of electric shock, do not remove cover. No user serviceable parts inside. And do not insert fingers or any other objects into the video cassette holder.

### WARNING:

**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.**

### CAUTION:

**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSOIRES ONLY.**

### CAUTION:

**To reduce the risk of fire or shock hazard, refer change of switch setting inside the unit to qualified service personnel.**

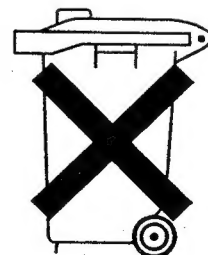
### Operating precaution

Operation near any appliance which generates strong magnetic fields may give rise to noise in the video and audio signals. If this should be the case, deal with the situation by, for instance, moving the source of the magnetic fields away from the unit before operation.

☐ is the safety information.

## Attention/Attentie

- This apparatus contains a lithium battery for memory back-up.
- For the removal of the battery at the moment of the disposal at the end of the service life please consult your dealer.
- Do not throw away the battery. Instead, hand it in as hazardous waste.
- Dit apparaat bevat een lithiumbatterij voor memory back-up.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat bij einde levensduur afdankt.
- Gooi de batterij niet weg, maar lever hem in als KCA.





## Memo

# SECTION 1

## OPERATING INSTRUCTIONS

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## General and Features

This unit is a digital video cassette recorder which uses 1/4-inch tapes.

It incorporates digital compression technology so that the deterioration in picture quality and sound quality resulting from dubbing is significantly minimized compared with existing analog systems.

Furthermore, since it has a compact 4U size and light weight, the unit can be carried around or mounted in a 19-inch rack with ease.

The settings for the unit's setup can be performed while viewing the screen menus on the TV monitor. With the AJ-D650 unit, both assemble and insert editing are possible through external control.

## Features

### Compact size and light weight

This is a 4U size digital VTR. It can be mounted in a 19-inch rack with ease using the optional rack-mounting adaptors (AJ-MA34HP).

### Up to 123 minutes of recording

Two sizes of cassette tapes can be used with this unit: the news-gathering cassette (max. 63 minutes) and general purpose cassette (max. 123 minutes). The width of the tapes measures 1/4 inch to achieve a compact design.

### Compatibility with consumer products

Consumer cassette tapes shot with digital cameras available on the consumer market can be played back on this unit using the optional cassette adaptor (AJ-CS750P).

#### <Notes>

- Slow playback of consumer cassette tapes will not produce the smooth operation produced by slow playback of DVCPRO cassette tapes.
- Consumer cassette tapes recorded in LP mode cannot be played back.

### Digital slow motion/jog

Noiseless images can be played back from speeds ranging from still picture to approx.  $\pm 1/2 \times$  normal tape speed through the external controller.

#### <Notes>

- Some noise may occur when the slow motion speed is changed.
- When slow motion playback is used, the top and bottom of the screen shift.

### Time codes

This unit comes with a built-in time code generator (TCG)/time code reader (TCR). In addition to the internal time code, time code facilities include external time code input as well as recording of the input signal VITC code.

### Multi-function input/output interfaces

- **Analog input/output**  
Component (Y, Pb, Pr) and composite and S-VIDEO signal input and output connectors are provided.
- **Digital audio input/output**  
AES/EBU audio input/output is possible when the optional digital audio interface board (AJ-YA655P) is used.
- **Serial digital input/output**  
Serial digital (EBU Tech. 3267-E) input/output is possible when the optional component serial interface board (AJ-YA750P) is used.

#### <Note>

The AJ-YA655P board, sold separately, is necessary when using serial digital audio (EBU Tech. 3267-E).

- **9-pin (RS-422A)/(RS-232C) remote**

The standard 9-pin serial (RS-422A) connector or an optional RS-232C connector is used.

## Features (continued)

### 2-channel high-sound-quality digital audio

Sound can be edited separately for two channels, and channel mixing capabilities are also available. One channel is provided for the analog cue track.

Information selected from audio CH1 and CH2 can be recorded in the cue track memory. (Set at the set up menu.)

- Cue track input and output connectors are not provided.

### Dial jog/shuttle operation is possible through the external controller

All playback is free of noise bars with jog operations

Performed when the variable range is set between  $-0.43$  and  $+1 \times$  normal tape speed.

Shuttle operations can be performed up to  $60 \times$  normal tape speed in both forward or reverse directions. Colour images are well-defined even during high-speed searches.

### Automatic editing functions from the external controller (only AJ-D650)

AJ-D650 allows both assemble and insert editing from the external controller.

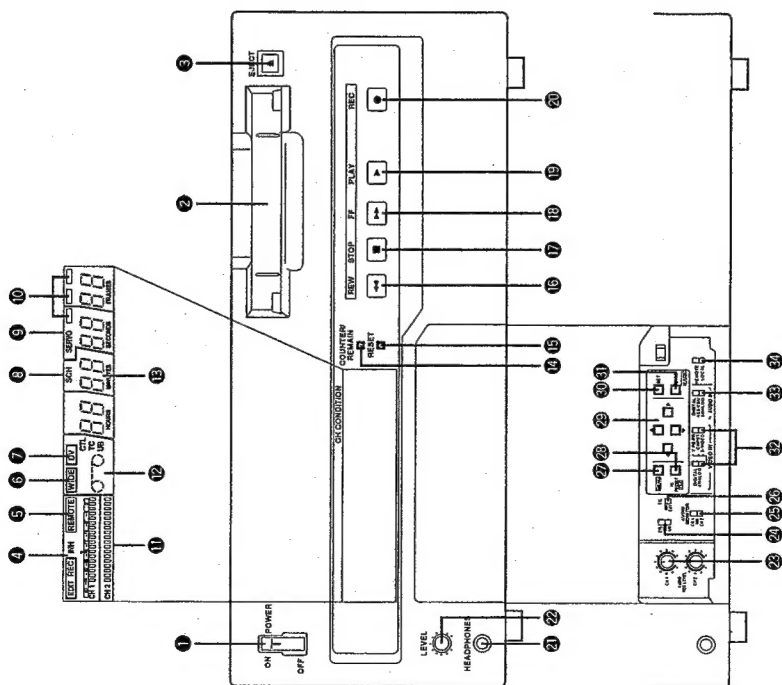
### Menu-driven setup

The setup settings, which are conducted prior to operating the unit, are performed while viewing the screen menus either on the unit display or TV monitor.

## Controls and their functions

### Front panel

#### Counter Display Section



- 1 POWER switch**  
When the ON side is pressed, the power is switched on, and the counter display lights up.
- 2 Cassette insertion slot**  
The news-gathering cassette, general-purpose cassette and consumer cassette with adaptor are inserted into this slot.  
Consumer cassettes can be played back only.
- 3 EJECT button**  
When this is pressed, the tape is unloaded and several seconds later the cassette is automatically ejected. When the counter display indicates "CTL", the display is reset.
- 4 EDIT/EDIT REC/REC/INH lamps**  
**EDIT:** This lights when the editing mode is chosen from the 9P remote control.  
**EDIT REC:** This lights when editing from the 9P remote control.  
**REC:** This lights during video recording.  
**REC INH:** This lights when the accidental erasure prevention mode has been set for the cassette. In this state, neither recording nor editing is possible.
- 5 REMOTE lamp**  
This lights when the REMOTE/LOCAL switch has been set to the REMOTE position.
- 6 WIDE lamp**  
This lights when the unit is in 16:9 wide screen mode.
- 7 Consumer cassette insertion display lamp**  
This lights when a cassette recorded on a consumer DV device has been inserted.
- 8 SCH lamp**  
This lights when the SCH of the external sync signal is within a specific range.
- 9 SERVO lamp**  
This lights when the drum servo and capstan servo have locked.
- 10 Channel condition lamps**  
One of these lamps lights in accordance with the error rate status. (Green→blue→red)  
**Green:** This lights when the error rates for the video and audio playback signals are both acceptable.  
**Blue:** This lights when the error rate for the video or audio playback signals has deteriorated.  
**Red:** The playback picture will remain normal even when this lamp lights.  
This lights when the video or audio signals are subject to rectification or interpolation.
- 11 Level meters**  
These indicate the PCM audio signal CH1/CH2.  
The audio signal indicates the input signal levels during recording and EE selection, and the output signal levels during playback.
- 12 Cassette insertion display lamp**  
This lights when a cassette has been inserted into the unit.
- 13 Counter display**  
This displays the TC and CTL count values, on-screen information and other messages.

## Controls and their functions (continued)

### 14 COUNTER/REMAIN button

This switches between the tape counter tape time indicator and the remaining tape indicator. [r \*\*\*] is displayed in the case of the remaining tape indicator. After the cassette tape is inserted, [r ----] (---- flashes) is displayed until remaining tape is calculated, and [r EJ] (EJ flashes) when ejecting the tape.

### 15 RESET button

When this is pressed during CTL mode, the counter returns to the 00:00:00:00 display. During menu setup, initial setting values are restored when the RESET button is pressed.

### 16 REW button\*\*

The tape is rewound when this is pressed.  
The unit goes into shuttle (SHTL) mode at  $-9.5 \times$  normal tape speed when this button is pressed together with the PLAY button.

### 17 STOP button

When this is pressed, the tape stops traveling, and if the setup menu No. 111 (STOP EE SEL) is set to TAPE, still pictures can be monitored.  
The drum continues to rotate even in the stop mode, and the tape remains in close contact with the drum.

If the stop mode continues for more than a certain period of time, the unit automatically switches to the standby OFF mode in order to protect the tape.  
The stop mode is established immediately after a cassette has been inserted into the unit.

### 18 FF button\*\*

The tape is fast forwarded when this is pressed.  
The unit goes into shuttle (SHTL) mode at  $+9.5 \times$  normal tape speed when this button is pressed together with the PLAY button.

### 19 PLAY button

Playback commences when this button is pressed.  
Recording commences when the button is pressed together with the REC button.

### 20 REC button

Recording commences when this button is pressed together with the PLAY button.  
When it is pressed during playback, search\*, fast forward or rewind, EE mode images and audio signals can be monitored for as long as it is kept depressed.  
When it is pressed in the stop mode, EE mode images and sound can be monitored. When the STOP button is pressed, the original picture and sound are restored.

\*\* The FF/REW speed can be selected on the setup menu NO. 102 (FF, REW MAX), and it is set to the same speed.

\*\* No guarantee is made for the audio EE mode.

### 21 Headphones jack

The sound being recorded, played back or edited can be monitored on stereo headphones when they are connected to this jack.

### 22 Volume control

This is used to adjust the headphones volume and the monitor output volume.  
Whether the headphones output and monitor output volumes are to be linked or kept separate can be set on-screen menu. (Note that the headphones output volume is normally linked.)  
When the volumes are kept separate, the monitor output is set to the unity value (preset value).

### 23 Audio recording level controls

These are used to adjust the recording levels of the analog audio signal CH1/CH2.

### 24 CTL/TC/UB switch

Use this switch when selecting the counter display.

CTL: Tape timer (control signal) is displayed.

TC: Time code is displayed.

UB: User bit is displayed.

### 25 MONITOR SELECT switch

This is used to select the audio signals output to the monitor channel.  
(With the No. 713 (MONI CH SEL) setting on the setup menu, the display may not match the monitor output.)

### 26 INT/EXT switch

INT: For using the built-in time code generator.

EXT: For using the time external code which is input from the time code input connector or the video signal VITC. The selection is set at the setup menu.

### 27 MENU button

When this is pressed, the setup menu appears on the TV monitor using VIDEO OUT 3 connector, and the setup menu No. appears on the display.  
When it is pressed again, the setup mode is exited and the original operating mode is restored.

### 28 TC PRESET (FILE) button

When this is pressed, the time code setting mode is established.  
User file can be selected when the cursor buttons (◀, ▶) are used during the setup menu mode. (For details, see setup menu items on page E-27.)

### 29 Cursor buttons (◀, ▶, ▲, ▼)

These are used when setting time codes and settings at menu setup.

◀, ▶: These change the flashing digit in the time code indicators.

Each time they are pressed, the flashing indicator moves incrementally to the left or right.

◀ increments to the left; ▶ increments to the right.

▲, ▼: These change the flashing digit in the time code indicators.

Each time they are pressed, the indicated value increments and decrements.

▼ decrements the value; ▲ increments the value.

The flashing digit changes continuously when the button is continuously pressed.  
For details about operation during setup menu mode, see setup menu items (page E-26).

## ② SET button

When this is pressed, the data which has been set on the setup menu is entered. After data entry, the setup mode is exited and the original operating mode is restored.

## ③ DIAG button

When this is pressed, VTR information is displayed. When it is pressed again, the original display is restored.

There are two types of VTR information: "HOURS METER" information and "WARNING" information. Switching between these types is enabled by pressing the cursor buttons (◀ ▶).

Indicated on the "HOURS METER" screen are the power-on time, drum rotation time, tape travel time, loading count, etc.

Indicated on the "WARNING" screen are the warnings.

## ④ VIDEO INPUT switch

This switches the video input signal.

**DIGITAL:** For selecting serial component digital video signal (EBU Tech. 3267-E)

**ANALOG:** recording.\*

For selecting analog video signal recording.

Select the analog video signal as follows to correspond with the input signal.

**Y PB PR:** For recording an analog component video signal.

**COMPST:** For recording an analog composite video signal.

**S-VIDEO:** For recording a S-VIDEO signal.

\*The optional AJ-YA750P serial interface board is necessary.

## ⑤ AUDIO INPUT switch

This switches the audio input signal.

**DIGITAL:** For selecting serial digital audio signal (EBU Tech. 3267-E) recording.\*

**AES/EBU:** For recording a digital audio signal.\*

**ANALOG:** For recording an analog audio signal.

\*Both the optional AJ-YA750P serial interface board and the optional AJ-YA655P digital audio interface board are necessary.

\*\*The optional AJ-YA655P digital audio interface board is necessary.

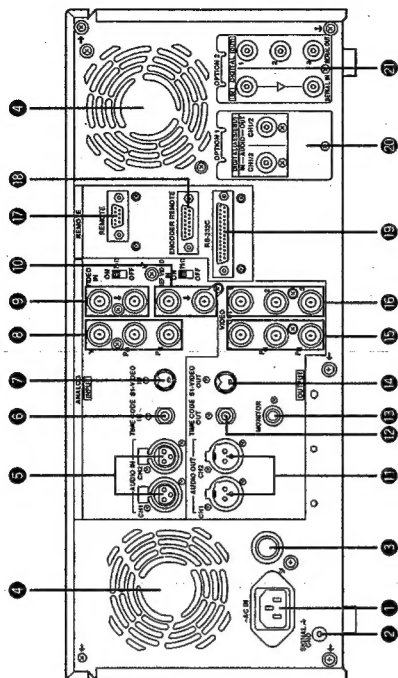
## ⑥ REMOTE/LOCAL switch

This switch is set when the unit is to be controlled from an external source using the REMOTE connector or RS-232C connector (option).

**REMOTE:** Set to this position when controlling the unit by a device connected using the 9-pin REMOTE connector or RS-232C connector.

**LOCAL:** Set to this position when controlling the unit using the controls on its own operation panel.

## Connector area



## Controls and their functions (continued)

### <Connector area>

- ① **AC IN connector**  
This is for connecting the unit to the power outlet using the power cord provided.
- ② **SIGNAL GND terminal**  
This terminal is connected to the signal unit which is connected to the unit in order to reduce noise. It is not connected to ground for safety purposes.
- ③ **Fuse holder**  
This contains a fuse.
- ④ **Fan motor**  
This is for cooling the unit.  
The error code is displayed on the counter when trouble has caused the fan motor to stop. If the unit is still operated in the warning status, the temperature inside the deck will rise, and when it exceeds the safety temperature, all the unit's operations will be shut down.
- ⑤ **ANALOG AUDIO IN connectors**  
These are the analog audio input connectors.
- ⑥ **TIME CODE IN connector**  
This is the connector for recording the external time code on the tape.
- ⑦ **S1-VIDEO IN connector**  
This is the S-VIDEO input connector.
- ⑧ **ANALOG COMPONENT VIDEO IN connector**  
The analog component video signal is supplied to this connector.
- ⑨ **ANALOG COMPOSITE VIDEO IN connectors and 75Ω termination switch**  
The analog composite video signal is supplied to these two connectors which are connected in a loop-through configuration. When the termination is required, set the switch to ON.
- ⑩ **REF VIDEO IN connectors and 75Ω termination switch**  
These are the input connectors for the reference video signals. When the termination is required, set the switch to ON.
- ⑪ **ANALOG AUDIO OUT connectors**  
The analog audio signals are output from these connectors.
- ⑫ **TIME CODE OUT connector**  
The playback time code is output from this connector during playback.  
During recording, the time code generated by the internal time code generator is output.
- ⑬ **MONITOR OUT connector**  
The playback signals from the CUE track or PCM audio signal CH1/CH2 are output from this connector.

### <Connector area>

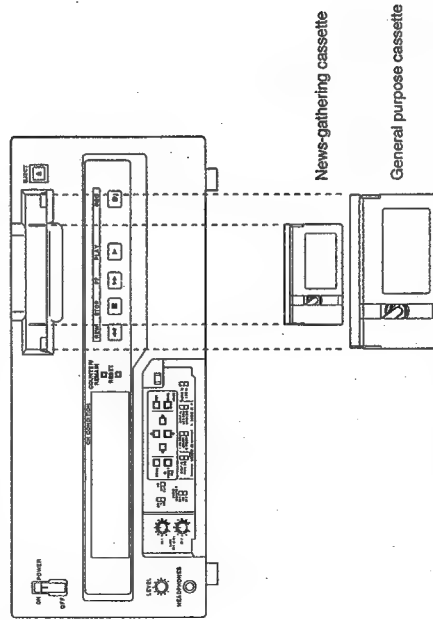
- ⑭ **S1-VIDEO OUT connector**  
This is the S-VIDEO output connector.
- ⑮ **ANALOG COMPONENT VIDEO OUT connector**  
The analog component video signal is output from this connector.
- ⑯ **ANALOG COMPOSITE VIDEO OUT connectors**  
The analog composite video signals are output from these connectors.  
The video signal with signals superimposed on it can be output from the VIDEO OUT3 connector.  
The superimpose function can be set ON or OFF on the setup menu No. 006 (SUPER).
- ⑰ **REMOTE connector**  
The unit can be controlled from an external source by connecting an external controller.
- ⑱ **ENCODER REMOTE connector**  
The external encoder/controller is hooked up to this connector when the video output signal and other settings are to be adjusted from an external source.
- ⑲ **RS-232C connector**
- ⑳ **DIGITAL AUDIO IN/OUT connector (optional AJ-YA655P required.)**  
This I/O connector is for digital audio signals which comply with the AES/EBU standard.
- ㉑ **SERIAL DIGITAL COMPONENT AUDIO/VIDEO IN/OUT connector (optional AJ-YA750P interface board required.)**  
This I/O connector is for digital component audio and video signals which comply with the EBU Tech. 3267-E standard.  
The optional AJ-YA655P is required for digital audio signal output on the AJ-YA750P board.



Three types of tapes can be used with the unit.

Type	Description
Consumer cassette	Tape designed exclusively for the camcorders used by consumers in general. Only playback is possible using the optional cassette adaptor.
News-gathering cassette	Recording/playback tape with a maximum capacity of 63 minutes. (AJ-P12MP, AJ-P23MP, AJ-P33MP, AJ-P63MP)
General purpose cassette	Recording/playback tape with a maximum capacity of 123 minutes. (AJ-P64LP, AJ-P94LP, AJ-P123LP)

Align the cassette with the centre of the insertion slot and push it in gently. The cassette tape is loaded automatically.

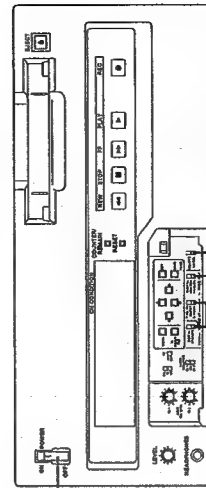
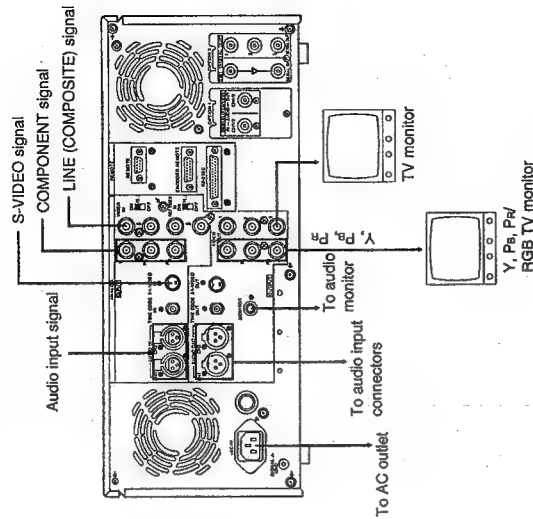


**<Notes for playback of consumer DV cassette tapes>**

- Consumer tapes are for playback only, they cannot be recorded upon by the AJ-D640/AJ-650.
- Consumer cassette tapes recorded in LP mode cannot be played back.
- Material recorded on consumer tape must be played back and edited to another professional VTR.
- The recording functions, recording, Tape/EE and others will not function when Consumer tape is inserted in the VTR.
- Consumer tape FF/REW speed is VTR limited to  $\pm 32\times$ . Slow motion playback of consumer format tapes may not be perfect.
- In order to protect the tape, the maximum STILL TIMER for consumer tape is 10 seconds, and the available time for leaving the tape in STILL mode during STEP FWD mode is set at 1 minute.
- Control (CTL) signals are not displayed when consumer tapes are used. Only the time code is displayed.

**When recording/playback using 1 unit**

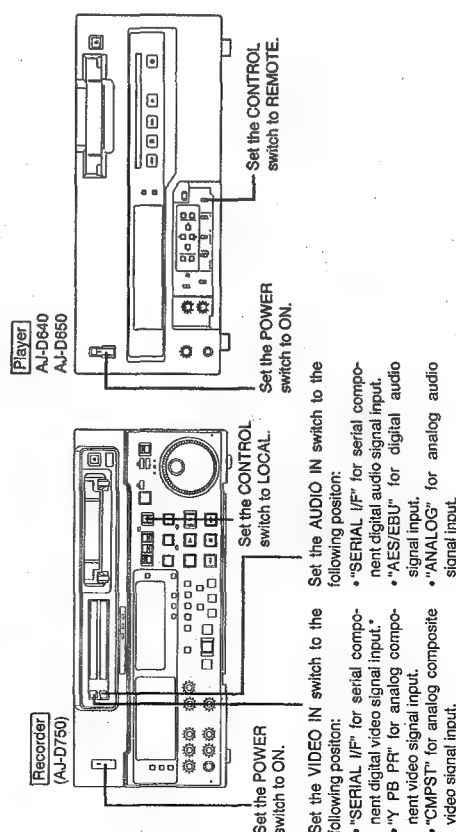
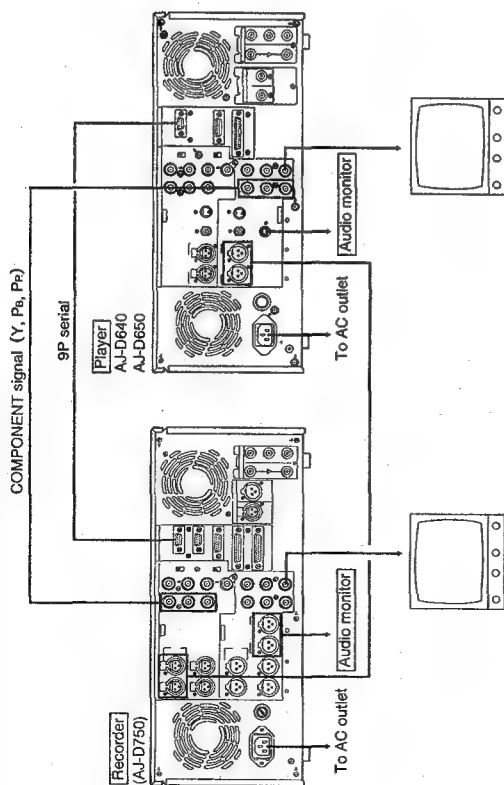
Set the CONTROL switch on the front panel to LOCAL.



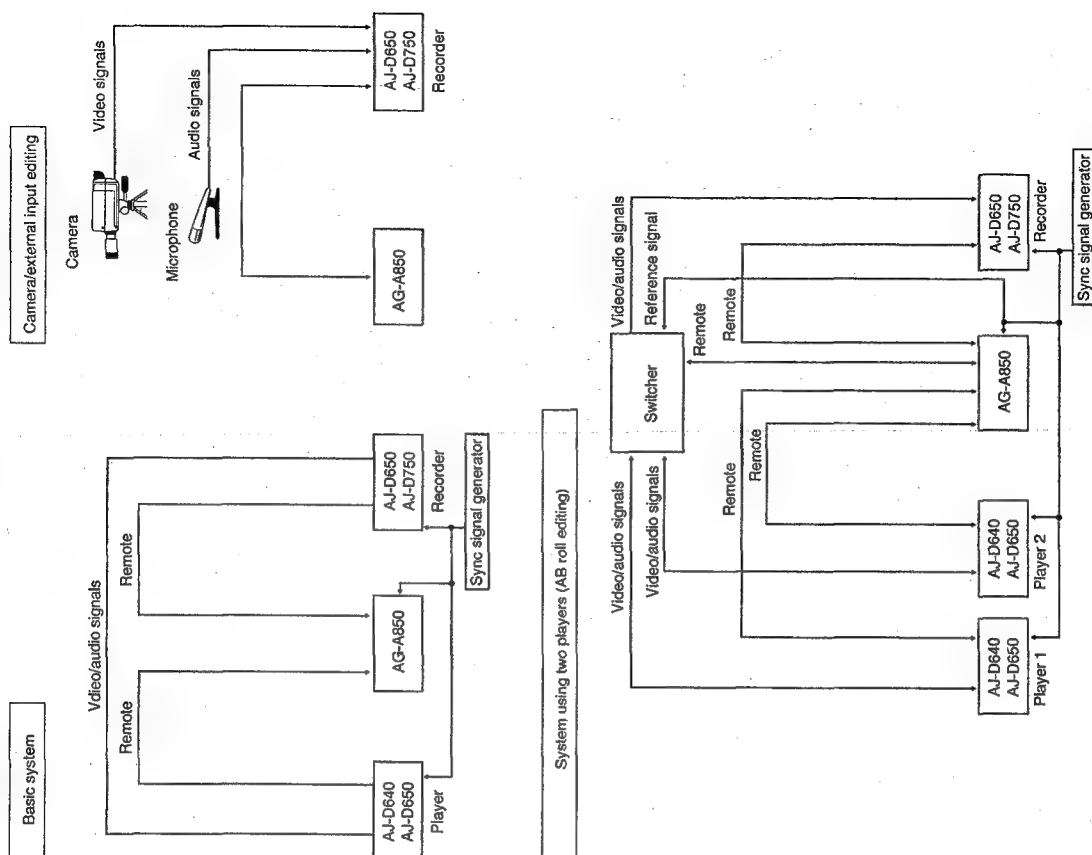
- Set the VIDEO IN switch to the following position:
- "DIGITAL" for serial component digital video signal input.
  - Set the VIDEO IN to ANALOG and select as following for the analog input:
    - "Y PB PR" for analog component video signal input.
    - "COMPST" for analog composite video signal input.
    - "S-VIDEO" for S-VIDEO signal input.
- Set the AUDIO IN switch to the following position:
- "DIGITAL" for serial component digital audio signal input.
  - "AES/EBU" for digital audio signal input.
  - "ANALOG" for analog audio signal input.

## When recording, playback & editing with 2 units (deck to deck)

The CONTROL switch on the recorder must be set to the LOCAL position, and the CONTROL switch on the player must be set to the REMOTE position.



## When using an editing controller

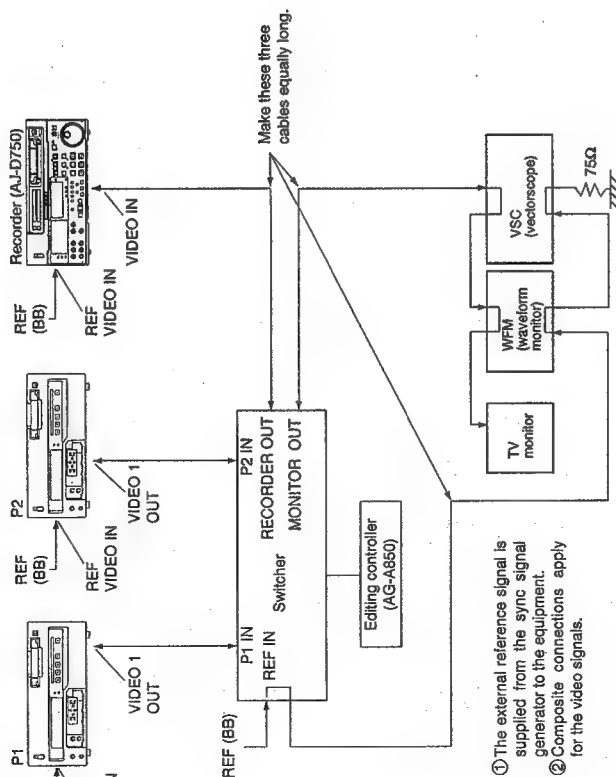


For further details, refer to the Operating Instructions of the AG-A850 editing controller (optional accessory).

## Internal encoder adjustments

In order to ensure error-free and accurate editing during AB roll editing (a method of editing using two source VTRs) using an editor, the ENCODER OUT controls must be adjusted after the system has been connected. (These controls must be re-adjusted each time the connecting cables are replaced or the connections are changed.)

**Connect the equipment as shown in the figure below.**

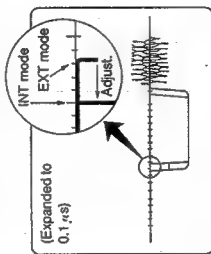


- ① The external reference signal is supplied from the sync signal generator to the equipment.
- ② Composite connections apply for the video signals.

If a waveform monitor and vectorscope are not available, correct any colour shifting while actually monitoring the picture on the TV monitor.

- 1 Check the connections. (see previous page.)
- 2 Select [OFF] on ENCODER SEL at the set up menu. (See page E-28.)  
Select [ON] to operate the internal encoder externally.
- 3 Adjust the SYSTEM PHASE.  
**3-1** On the P1 VTR, play back a cassette tape on which standard colour bar signals have been recorded.  
**3-2** Adjust P1 VTR SYS PHASE.  
Adjust the controls to the following with the waveform monitor (WFM).
  - 1) Expand WFM 0.1  $\mu$ s on the INT mode.
  - 2) Check the H SYNC position.
  - 3) In this status, select EXT mode for the WFM.
  - 4) In EXT mode, adjust the SYSTEM PHASE to H, SC COARSE, SC FINE, in this order, at the set up menu to set H SYNC to its previous position.

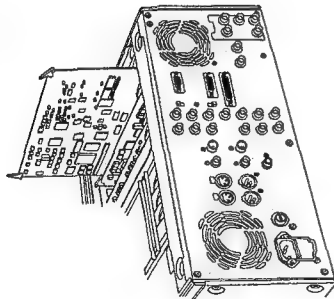
### ■ Waveform on waveform monitor



(Observe the SYNC fall.)

- 4** Adjust the connected P2 VTR in the same way.

## Printed circuit board



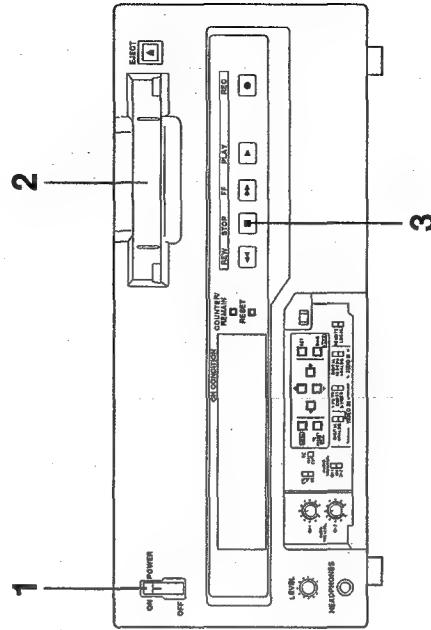
Printed circuit board	Abbr. name	Full name	Function	Factory setting
F-8 board ADDA- CUE	SW1	Audio Input Impedance SW	This sets the CH1 audio input impedance. HIGH/600Ω	HIGH
	SW61	Audio Input Impedance SW	This sets the CH2 audio input impedance. HIGH/600Ω	HIGH

**CAUTION:**  
TO REDUCE THE RISK OF FIRE OF SHOCK HAZARD, REFER CHANGE OF SWITCH SETTING INSIDE THE UNIT TO AUTHORIZED SERVICE PERSONNEL.

## Switching on the power/inserting the cassette

Before starting to operate the unit, check whether the equipment has been connected properly.

- 1** Turn on the power.  
Check that the error indicator is not displayed on the counter.
- 2** Insert the cassette tape.  
Insert the tape at its proper position without force. (See page E-15.)
- 3** Check that the STOP lamp is on.  
When the tape is inserted, the drum rotates automatically, the tape is loaded and the unit goes into the stop mode.

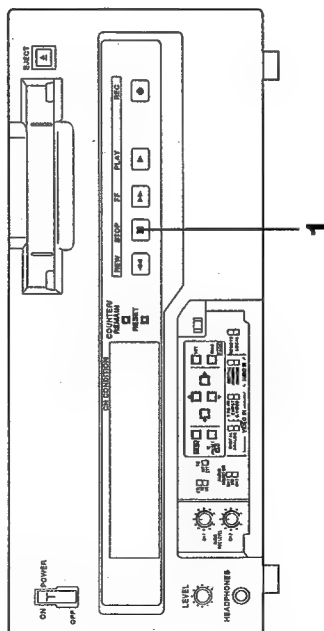


## STOP mode

- 1 When the STOP button is pressed, the unit goes into the stop mode. The STOP lamp lights and the tape stops traveling.
  - In order to protect the tape, the unit goes into the standby OFF mode after the time set by setting menu No.400 (STILL TIMER) has elapsed. When the STOP, REW, FF or PLAY button is pressed, the unit will go into the appropriate mode.

### Still Timer Setting

In order to protect the tape and VTR helical heads, it is recommended that the Still Timer be set for automatic tape protection mode in 30 seconds or under. Page E-33 indicates the settings for menu item 400-Still Timer set. Still Timer settings 4 and below will best protect the tape.



## Recording

- 1 Set the accidental erasure prevention tab on the cassette tape to the "recording" position and insert the tape.
  - 2 Press the STOP button to place the unit in the stop mode.
  - 3 Check that the REC INHIBIT lamp is off.
  - 4 Select the video and audio input signals and adjust their levels.
- ### 4-1 Selecting video/audio input signals
- 1 Connect the signals to be recorded.
  - 2 Select the input signals using the INPUT SELECT switches on the front panel.
- ### 4-2 Adjusting the audio level
- Adjust the audio input signal levels of the analog audio CH1/CH2 signals. When set at the centre position, audio signals will be recorded at the proper level.
- 5 Press the PLAY button while holding down the REC button. The REC and PLAY lamps light, and recording commences.
  - 6 To end the recording, press the STOP button. Recording is ended, and the unit goes into the stop mode.

### <Notes>

- Check that the SERVO lamp is lighted during recording. If it flashes or if it is off, the images played back will be disturbed.
- The sound and pictures to be recorded are offset from the playback pictures by at least 5 frames and recorded. When, for instance, recording sound at a particular timing while the playback pictures are monitored, the sound to be edited will be recorded at a position which is offset from the playback pictures by 5 frames.

## Playback

- 1 Insert the cassette tape, and place the unit in the stop mode.
- 2 Press the PLAY button.  
Regular playback is now commenced.
- 3 To end playback, press the STOP button.  
The VTR now goes into the stop mode.

### <Note>

- Check that the SERVO lamp is lighted during playback. If it flashes or if it is off, the images played back will be disturbed.

## Setup (default settings)

The unit's major settings are performed by making selections on menus. The setting menus appear on the TV monitor when the TV monitor and VIDEO OUT 3 connector in the unit's connector area are hooked up.

### Changing the settings

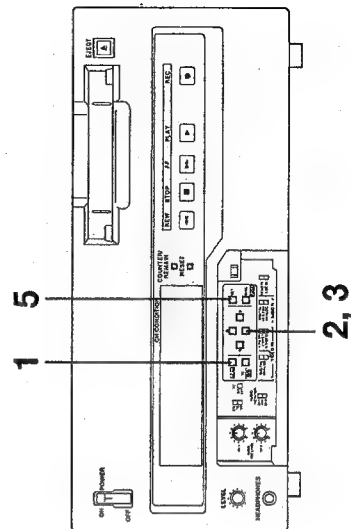
- 1 Press the MENU button.  
The setup menu appears on the TV monitor and setup menu No. appears on the counter display. (If the setup has already been performed, the screen showing the changes made last will appear.)
  - 2 Press the cursor buttons (▲, ▼) and select the item to be set.  
The cursor ( \* ) on the menu screen moves and the item No. on the display flashes.  
• When the ▼ button is pressed, the item No. is incremented for 001 → 002 → 003 → 004 → and so on; when the ▲ button is pressed, the item No. is decremented.
  - 3 Press the cursor buttons (◀, ▶) at the position where the change is to be made.  
The menu screen and display setting No. now flashes.  
When the ▶ button is pressed, the setting No. is incremented; when the ▶ button is pressed, it is decremented.
  - 4 Repeat steps 2 and 3 to change other items.
  - 5 Press the SET button.  
The changes are now stored in the memory.  
• To return the items to the settings established before the changes were made, press the MENU button without pressing the SET button.
- To return the setup settings to the factory (initial) settings, press the RESET button while the menu is displayed.

The following message is displayed.

SETUP-MENU INIT SET  
YES<PLAY>NO<STOP>

When the PLAY button is pressed, the factory settings are restored.

<Notes>  
• When the RESET button is pressed to return to the factory settings, the factory settings are restored only for the user file currently being used and other user files are not affected.  
• The changed SYSTEM menu contents are stored in the memory even if the MENU button is pressed.

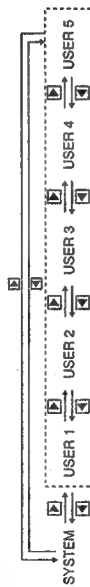


## Setup (setting) menus

This unit can store up to 5 user files (user 1 to user 5) containing different menu settings, and these files can be selected and used.

### Changing the file

- 1 Press the MENU button.
- 2 Hold down the FILE button and press the cursor button  $\blacktriangle$  to switch to the next user file.  
Hold down the FILE button and press the cursor button  $\blacktriangleleft$  to switch to the previous user file.



#### USER FILE

Each user file contains the following items.

- BASIC
- OPERATION
- INTERFACE
- EDIT
- TAPE PROTECT
- TIME CODE
- VIDEO
- AUDIO

- 3 Repeat the operation in step 2 to select the user file to be used and press the SET button. The user file is changed and stored in the memory.

#### <Note>

- SYSTEM menu items are not included in user files 1 to 5.  
Therefore, after selecting the user file, switch to the SYSTEM file and set the SYSTEM menu items.

## SYSTEM menu

### <SYSTEM>

Item No.	Superimposed display	Setting No.	Superimposed display	Description
00	SYS SC COAR.	0000 0001 0002 0003	0 90 180 270	System phase rough adjustment: 90° units  <Note> When shipped from the factory, the setting values do not change even if setting operations are performed.
01	SYS SC FINE	0000 0127 0255	-127 0 127	System phase fine adjustment: Total variable range: ±90° or more -: advanced +: delayed
02	SYS H	0000 0112 0224	-112 0 112	System phase adjustment: ±2.1sec (SC cycle phase) -: Advanced +: Delayed  <Note> When shipped from the factory, the setting values do not change even if setting operations are performed.
03	ENCODER SEL	0000 0001	OFF ON	This selects whether the ENCODER connector functions. 0: Does not function. 1: Functions.
10	AV PHASE	0000 0128 0256	-128 0 127	This adjusts the audio output phase with respect to the video output: 20.8/μs steps -: The audio output phase is advanced with respect to the video output. +: The audio output phase is delayed with respect to the video output.

The underline on the setting item denotes the initial setting.

## USER menu

### <BASIC>

Item No.	Superimposed display	Setting No.	Superimposed display	Description
000	P-ROLL TIME	0000 0005 0015	0S 5S 15S	This sets the preroll time which can be set from 0 to 15 seconds in 1-second increments.  <Note> In the case of AJ-D640, the unit will not operate if the preroll time is set to 0 seconds when the unit is set to automatic editing (PREVIEW, AUTO EDIT COMMAND) from an external controller.
001	CHARA H-POS	0000 0005 0012	0 5 12	This sets the position of the characters on the horizontal plane for the time code and other super displays output to the VIDEO OUT 3 connector.  <Note> 1. When setting this item, the DISPLAY SEL status is output to VIDEO 3 even if SUPER OFF has been set. However, when the menu is exited, operation complies with the SUPER OFF/ON setting. Also, CHARA TYPE is output to VIDEO 3 according to the status set in the menu. 2. When the DISPLAY SEL setting causes characters to extend beyond the edges of the screen, the setting value is changed so that the characters are automatically displayed in a position on the screen.

The underline on the setting item denotes the initial setting.



# Setup (setting) menus

## USER menu

### <BASIC> (continued)

No.	Item	Setting	Description
002	CHARA V-POS	0000 0001 0023 0028	This sets the position of the characters on the vertical plane for the time code and other super displays output to the VIDEO OUT 3 connector. 0: 0 1: 23 2: 28 <Note> 1. When setting this item, the DISPLAY SEL status is output to VIDEO 3 even if SUPER OFF has been set. However, when the menu is exited, operation complies with the SUPER OFF/ON setting. Also, CHARA TYPE is output to VIDEO 3 according to the status set in the menu. 2. When the DISPLAY SEL setting causes characters to extend beyond the edges of the screen, the setting value is changed so that the characters are automatically displayed in a position on the screen.
003	DISPLAY SEL	TIME T&STA T&S&M	This selects what information is to be provided by the time code and other super displays output to the VIDEO 3 connector. 0: Time only. 1: Time and status. 2: Time, status and mode. <Note> The mode display is DVCPRO mode display during DVCPRO format and DV mode display during DV format.
004	LOCAL ENA	DIS ST&SEL ENA	This selects the buttons which can be operated on the front panel when the REMOTE/LOCAL switch has been set to REMOTE. 0: No buttons can be operated. 1: Only the STOP and EJECT buttons can be operated. 2: All buttons can be operated.
005	TAPE TIMER	±12h 24h	This selects the 12 or 24 hour display for the CTL counter. 0: 12 hour display 1: 24 hour display
006	SUPER	OFF ON	This selects whether the time code and other super display which are output to the VIDEO OUT 3 connector is to shown. 0: Not shown. 1: Shown.
007	CHARA TYPE	WHITE W/OUT	This selects the display type for the super display output to the VIDEO OUT 3 connector as well as for displays such as the setting menu, etc. 0: While characters against a black background. 1: White characters with a black border.

The underline on the setting item denotes the initial setting.

## USER menu

### <OPERATION>

No.	Item	Setting	Description
101	SHTL MAX	0000 0001 0002	This sets the maximum speed for shuttle operations. 0: 16x normal speed 1: 32x normal speed 2: 60x normal speed <Note> During DV format, the maximum speed is 32x normal speed even when 60x is selected.

The underline on the setting item denotes the initial setting.

- E-29 -

## USER menu

### <OPERATION> (continued)

No.	Item	Setting	Description
102	FF, REW MAX	0000 0001 0002	This sets the maximum speed for FF and REW operations. 0: 32x normal speed 1: 60x normal speed 2: 100x normal speed <Note> During DV format, the maximum speed is 32x normal speed regardless of this setting.
103	AUDIO MUTE	0000 0001	This sets the status until the audio signal is output when operation switches from the stop or search modes to the play mode. 0: The time until the audio is output is shortened. 1: The audio is output after the status stabilizes. <Note> When set to 0 (OFF), the sound in the initially output part is incomplete. Therefore, this setting is not recommended for broadcasts.
104	REF ALARM	0000 0001	This selects whether to warn the operator when the REF VIDEO signal has not been connected. 0: Warning is not given. 1: Warning is given by the flashing STOP lamp.
106	PLAY DELAY	0000 0001 0015	This sets the play delay time in frame increments. 0: 0 1: 15
107	CAP. LOCK	0000 0001 0002	This selects the capstan lock mode. 0: 2F mode 1: 4F mode 2: 8F mode
108	FORMAT SEL	0000 0001	This selects the format which applies when the general purpose cassette is used. After selection, this status becomes effective only when the cassette is inserted after ejection. 0: DVCPRO mode 1: DV mode <Notes> Take care not to insert a tape whose format is the reverse of the one selected since the following trouble as well as playback trouble will occur. 1. A recording operation is initiated if a DV cassette is inserted when the DVCPRO mode is selected. No guarantees can be made for performance, etc. Conversely, no recording can be conducted if a DVCPRO cassette is inserted when the DV mode is selected. 2. The REMAIN display loses its accuracy. 3. The accuracy of the slowdown position near the start and end of the tape is lost.
109	EJECT EE SEL	0000 0001	This selects whether EE mode or BLACK is to be used during EJECT status. 0: EE mode 1: Video blackens, audio mutes.
110	F/R EE SEL	0000 0001	This selects whether EE mode or playback mode is to be used during FF/REW operations. 0: EE mode 1: Playback mode
111	STOPEE SEL	0000 0001	This selects whether EE mode or playback mode is to be used during stop mode. 0: EE mode 1: Playback mode <Note> The STAND-BY OFF mode complies with the above selection. When TAPE is selected, however, the video becomes grey.

The underline on the setting item denotes the initial setting.

- E-30 -

## Setup (setting) menus

### USER menu

#### <INTERFACE>

Item		Setting	Description
No.	Superimposed display	No.	
201	9P SEL	0000 0001	OFF ON
This selects whether the 9P connector functions when the REMOTE/LOCAL switch has been set to REMOTE. 0: Do not function 1: Function			
202	ID SEL	0000 0001	OTHER DVCPRO
This selects the ID information which is returned to the controller. 0: 20 25H 1: DVCPRO's, own ID is returned (FO 33H).			

The underline on the setting item denotes the initial setting.

### USER menu

#### <EDIT>

Item		Setting	Description
No.	Superimposed display	No.	
300	VAR RANGE	0000 0001	-0.43 - 1 -4 - +4
This sets the VAR speed range. 0: The tape is played in slow motion at a speed ranging from -0.43x to +1x normal speed. 1: The tape is played in the ±4.1x normal speed range. -Notes- Phase synchronization from the editing controller is no longer possible once this item has been set to "0". For DV format: When using the dial on the front panel, playback is always performed at -0.5 to +1x normal speed regardless of the menu setting. When using the 9P (RS-232C), when 0 is selected, playback is performed at -0.5 to +1x normal speed. When 1 is selected, playback is performed at -3.1 to +3.1x normal speed.			
303	STD/ NON-STD	0000 0001 0002	AUTO STD N-STD
This selects STD or NON-STD in accordance with the composite input signal. 0: Standard/non-standard signals are automatically identified and processed. 1: Standard signals are processed. (Forced STD) 2: Non-standard signals are processed. (Forced NON-STD)			
304	SERVO REF	0000 0001	AUTO EXT
This selects the video signal processing. 0: Servo is synchronized with the input signal during recording and editing, or with the REF signal during playback. 1: Servo is synchronized at all times with the REF signal.			

The underline on the setting item denotes the initial setting.

### USER menu

#### <EDIT> (continued)

Item		Setting	Description
No.	Superimposed display	No.	
305*	EDIT RPLCE1	0000 0001 0002 0003	N-DEF CH1 CH2 CH1+2
This sets the channel assignments for the controller's analog audio preset when editing the digital audio of the VTR using a controller which does not have a digital audio edit preset control function. This selects the channel concerned when the VTR CH1 edit preset is set in compliance with the ON or OFF presetting for the analog audio signals designated by the controller. 0: Not set. 1: Compliance with analog CH1 edit preset. 2: Compliance with analog CH2 edit preset. 3: Compliance with either analog CH1 or CH2 edit preset.			
306*	EDIT RPLCE2	0000 0001 0002 0003	N-DEF CH1 CH2 CH1+2
This sets the channel assignments for the controller's analog audio preset when editing the digital audio of the VTR using a controller which does not have a digital audio edit preset control function. This selects the channel concerned when the VTR CH2 edit preset is set in compliance with the ON or OFF presetting for the analog audio signals designated by the controller. 0: Not set. 1: Compliance with analog CH1 edit preset. 2: Compliance with analog CH2 edit preset. 3: Compliance with either analog CH1 or CH2 edit preset.			
307*	EDIT RPLCEC	0000 0001 0002 0003	N-DEF CH1 CH2 CH1+2
This sets the channel assignments for the controller's analog audio preset when editing the digital audio of the VTR using a controller which does not have a digital audio edit preset control function. This selects the channel concerned when the VTR CUE edit preset is set in compliance with the ON or OFF presetting for the analog audio signals designated by the editor or controller. 0: Not set. 1: Compliance with analog CH1 edit preset. 2: Compliance with analog CH2 edit preset. 3: Compliance with either analog CH1 or CH2 edit preset.			
309*	AUD EDIT IN	0000 0001	CUT FADE
This selects the connection method for the digital audio edit in point. 0: Cut processing 1: V Fade processing			
310*	AUD EDIT OUT	0000 0001	CUT FADE
This selects the connection method for the digital audio edit out point. 0: Cut processing 1: V Fade processing			
313	AFTER CUE-UP	0000 0001	STOP STILL
This selects the mode after cue-up operation is complete. 0: STOP mode 1: SHTL STILL mode			

The underline on the setting item denotes the initial setting.

\* The Setup menu can only be displayed for the model AJ-D650.

# USER menu

## <TAPE PROTECT>

Item		Setting	Description
No.	Superimposed display	No. Superimposed display	
400	STILL TIMER	0000 0001 0002 0003 0004 0005 0006 0007 0008	This selects the time to be taken until the unit goes into the tape protection mode when it is left standing in the stop mode. (Unit: s = second, min = minute)  <Note> Within the DV format, the maximum time which can be set is 10s even when a setting above 10s has been selected. The selection screen, however, will operate for up to 2 minutes.
401	SRC PROTECT	0000 0001	This selects the operation during the tape protection mode when the unit is left standing in the still status in No. 400 0: STEP FWD. 1: HALF LOADING.  <Note> When STEP FWD is selected, the unit automatically goes into the HALF LOADING mode when the total time for which the unit is left standing in the still status reaches 30 minutes (DVCPRO) or 1 minute (DV).

The underline on the setting item denotes the initial setting.

### <Note>

In order to protect the tape and VTR helical heads, it is recommended that the Still Timer be set for automatic tape protection mode in 30 seconds or under.

# Setup (setting) menus

## USER menu

## <TIME CODE>

Item		Setting	Description
No.	Superimposed display	No. Superimposed display	
500	VTC POS-1	0000 0001 0002 0003 0004 0005 0006 0007 0008 0009 0010 0011 0012 0013 0014	This sets the position where the VTC signal is to be inserted. (The same line as for VTC POS-2 in 501 cannot be selected.)
501	VTC POS-2	0000 0001 0002 0003 0004 0005 0006 0007 0008 0009 0010 0011 0012 0013 0014	This sets the position where the VTC signal is to be inserted. (The same line as for VTC POS-1 in 500 cannot be selected.)
502	VTC BLANK	0000 0001	This selects whether to output the VTC data to the positions selected by VTC POS-1 in 500 and VTC POS-2 in 501. 0: Data is not output. 1: Data is output.
503	TCG REGEN	0000 0001 0002	This selects the signal to be regenerated when the time code generator (TCG) in the REGEN mode. 0: Both the time code and user bit are regenerated. 1: Only the time code is regenerated. 2: Only the user bit is regenerated.
504	REGEN MODE	0000 0001	This selects whether values used in the internal time code generator are preset from the front panel or remote controller or synchronized with time code values read from the tape. 0: Values are preset from the front panel or remote controller. (PRESET) 1: Values are synchronized with time code values read from the tape. (REGEN)
505	EXT TC SEL	0000 0001	<Note> When "1" is selected, values selected at set up menu No.503 (TCG REGEN) are regenerated.  This selects the time code to be used when an external time code is to be used. 0: The LTC of the TIME CODE IN connector is used. 1: The video signal VTC is used.

The underline on the setting item denotes the initial setting.

## Setup (setting) menus

### USER menu

#### <TIME CODE> (continued)

Item		Setting	Description
No.	Superimposed display	No. Superimposed display	
506	BINARY GP	0000 0001 0002 0003 0004 0005 0006 0007	This sets the usage status of the user bit of the time code generated by the TCG. 0: NOT SPECIFIED (character set not specified) 1: ISO CHARACTER (8 bits character set based on ISO646, ISO2022) 2: UNASSIGNED 1 (undefined) 3: UNASSIGNED 2 (undefined) 4: UNASSIGNED 3 (undefined) 5: PAGE LINE 6: UNASSIGNED 4 (undefined) 7: UNASSIGNED 5 (undefined) LTC generated by the TCG. 0: Phase correction control is not performed. 1: Phase correction control is performed.
507	PHASE CORR	0000 0001	This selects whether to control the phase correction of the LTC generated by the TCG. 0: Phase correction control is not performed. 1: Phase correction control is performed.
508	TCG CF FLAG	0000 0001	This selects whether the CF flag of the TCG is to ON. 0: CF flag is OFF. 1: CF flag is ON.
510	RUN MODE	0000 0001	This selects the time code generator run mode. 0: Generator runs only during recording. 1: Generator runs during usual operation.

The underline on the setting item denotes the initial setting.

### USER menu

#### <VIDEO>

Item		Setting	Description
No.	Superimposed display	No. Superimposed display	
601	INT BB SIG	0000 0001	This selects whether to generate the internal black burst signal. 0: Signal is not generated. 1: Signal is generated.
602	INPUT C KILL	0000 0001	This selects colour killer processing for the video input signals. 0: The signals are forcibly processed as BW signals. 1: The signals are automatically processed.

#### <VIDEO> (continued)

Item		Setting	Description
No.	Superimposed display	No. Superimposed display	
603	OUT VSYNC	0000 0001	This selects whether to float the vertical sync position of the video output in order to align the video output phase with the input in the EE/record/effi modes. 0: Signals are not floated. 1: Signals are floated.
604	V-MUTE SEL	0000 0001	This selects whether the video output signal is to be muted in the event of a low RF or disengaged servo lock during playback. 0: No muting (picture freezes). 1: Muting (picture turns grey).
608	FREEZE SEL	0000 0001	This selects the freeze mode for still pictures. 0: Field freeze 1: Frame freeze  -Note- When frame freeze is selected, the frame freeze mode is established even during slow motion.
609	IN FRM DET	0000 0001	This selects the conditions under which frame detection is to be performed when signals are input. 0: Frame detection is performed at all times. 1: Frame detection is prohibited only when non-standard signals are input.
611	EDH	0000 0001	This selects whether to superimpose EDH onto the serial output signals. 0: EDH is not superimposed. 1: EDH is superimposed. * This item setting is valid when the optional serial interface board has been installed.
612	WIDE SELECT	0000 0001 0002	This selects the operation to be conducted in response to the WIDE information. 0: During recording, if the Y/C input signals contain WIDE information, the WIDE information is recorded on the tape. During playback, if WIDE information is on the tape, it is added to the Y/C output signals. 1: During recording, the WIDE information is recorded on the tape regardless of whether the Y/C input signals contain the WIDE information. During playback, the WIDE information is added to the Y/C output signals regardless of whether the WIDE information is on the tape. → Forced WIDE ON 2: During recording, the WIDE information is not recorded on the tape regardless of whether the Y/C input signals contain the WIDE information. During playback, the WIDE information is not added to the Y/C output signals regardless of whether the WIDE information is on the tape. → Forced WIDE OFF  -Note- This item is effective during recording at the start of the recording and during playback at all times. Therefore, when its setting has been changed during recording, the MENU contents will be changed but no change will occur in the actual operation.

The underline on the setting item denotes the initial setting.

# USER menu

<AUDIO>

Item	Setting	Description		
No.	Superimposed display	No.	Superimposed display	
700	CH1 IN LV	0000 0001 0002 0003	4dB 0dB -20dB -60dB	This selects the audio input (CH1) reference level switching.
701	CH2 IN LV	0000 0001 0002 0003	4dB 0dB -20dB -60dB	This selects the audio input (CH2) reference level switching.
703	CH1 OUT LV	0000 0001 0002	4dB 0dB -20dB	This selects the audio output (CH1) reference level switching.
704	CH2 OUT LV	0000 0001 0002	4dB 0dB -20dB	This selects the audio output (CH2) reference level switching.
713	MONI CH SEL	0000 0001 0002 0003	AUTO 1 AUTO 2 AUTO 3 AUTO 4	This selects the monitor output. 0: In the tape speed range of -0.43x (-0.5x) to ±1x normal speed, PCM AUDIO is output; at all other times, CUE is automatically output. 1: In the PLAY mode, PCM AUDIO is output; at all other times, CUE is automatically output. 2: In the PLAY mode, PCM AUDIO is output; in the tape speed range of -0.43x (-0.5x) to ±1x normal speed, QUICK PCM AUDIO is output; at all other times, CUE is automatically output. 3: In the tape speed range of -0.2x to +0.2x normal speed, QUICK PCM AUDIO is output; in the tape speed ranges of -1x to -0.2x and +0.2x to +1x (excluding -0.2x and +0.2x) normal speed, PCM AUDIO is output; at all other times, CUE is automatically output.  <Notes> 1. The tape speed figures given above in parentheses apply when DV format tapes are used. 2. PCM AUDIO complies with the AUDIO MONITOR SELECT SW setting and is set to CH1, CH2 or MIX (CH1+CH2). 3. "QUICK PCM AUDIO" is a playback mode in which priority is given to aligning the video and audio phases during slow-motion playback. In this mode, the sound at 1x normal speed is played back one frame at a time each time the video frame is updated. (During normal PCM AUDIO slow-motion playback, the sound is stretched out so that it is played back after the pictures.)
714	REC CH1	0000 0001 0002	CH1 CH2 CH1+2	This selects the input signal to be recorded on the audio CH1 track. 0: Audio input CH1 signal. 1: Audio input CH2 signal. 2: Mixed audio input CH1 and CH2 signal.
715	REC CH2	0000 0001 0002	CH1 CH2 CH1+2	This selects the input signal to be recorded on the audio CH2 track. 0: Audio input CH1 signal. 1: Audio input CH2 signal. 2: Mixed audio input CH1 and CH2 signal.

The underline on the setting item denotes the initial setting.

# USER menu

<AUDIO> (continued)				
Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
716	REC CUE	0000 0001 0002	CH1 CH2 CH1+2	This selects the input signal recorded in CUE. 0: The signal selected by SETUP-MENU No.714 is recorded on CH1. 1: The signal selected by SETUP-MENU No.715 is recorded on CH2. 2: The signal selected by SETUP-MENU No.714 and No.715 are mixed and recorded on CH1 and CH2.
718	DV OUTPUT	0000 0001 0002	ST1 ST2 ST1+2	This selects the AUDIO CH1 and CH2 output signals during DV format playback. 0: The CH1 track signals are output to CH1 and the CH2 track signals to CH2. (Only the sound during shooting is output.) 1: The CH3 track signals are output to CH1 and the CH4 track signals to CH2. (Only the audio dubbing sound is output.) 2: The mixed CH1 and CH3 track signals are output to CH1 and the mixed CH2 and CH4 track signals to CH2. (The sound during shooting and audio dubbing sound are output simultaneously.)  <Note> This item setting is valid only when the tape recorded on the four channels of the DV format is played back.
719	PB FADE	0000 0001 0002	AUTO CUT FADE	This selects the processing method for the audio edit points (IN point, OUT point) during playback. 0: According to the status during recording. (Setup menus No.309, 310) 1: Forced CUT 2: Forced FADE
720	EMBEDDED AUD	0000 0001	OFF ON	This selects whether to superimpose the audio data onto the serial output. 0: Data is not superimposed. 1: Data is superimposed.  <Note> This item is valid when the optional serial interface board has been installed.
721	LINE CH SEL	0000 0001	PCM AUTO	This selects the audio output (LINE OUT). 0: PCM AUDIO or QUICK PCM AUDIO is output. 1: Whatever is selected by SETUP-MENU No.713 (MONI CH SEL) output.  <Note> The PCM AUDIO or QUICK PCM AUDIO output is not affected by the AUDIO MONITOR SELECT SW, and CH1 and CH2 are output independently.
722	INT SG	0000 0001	OFF ON	This selects whether the internal signal is to be used for the audio input signal. 0: The internal signal is not selected. 1: The internal signal is selected.  <Note> The internal signal has a frequency of 1 kHz.

The underline on the setting item denotes the initial setting.

## Time code/user bit

### Time code

The time code is used when the time code signal generated by the time code generator (time code signal generator) is to be recorded on the tape, its values are to be read by the time code reader (time code signal reader), and the absolute position of the tape is to be displayed in increments of hours, minutes, seconds and frames.

The time code is written in the sub-code area (data area) of the helical track. This enables insert editing to be conducted independently using the time code alone. In addition, the VTR's playback speed can be read from the stop mode to slow-motion playback up to high-speed play (approx. 100X normal speed).

The time code values are indicated using the display and superimpose functions.

TC 00 : 07 : 04 : 24  
 ↑ Hours ↑ Minutes ↑ Seconds ↑ Frames

#### <Note>

Time code reader values normally appear on the superimposed display.

Values appear as shown below on the front display.

Playback: Time code reader values

REC, EE: Time code generator values

Time code generator values can be checked when the REC button is pressed even during playback.

### User bit

"User bit" refers to the 32-bit (8-digit) data frame among the time code signals which has been released to users. It enables operator numbers values to be recorded.

The alphanumeric characters which can be used for the user bit are the figures 0 to 9 and the letters A to F.

## Recording internal/external time codes

### 1. Setting the internal time code

- 1 Place the VTR in the stop mode.
- 2 Set the CTL/TC/UB switch to TC.
- 3 Set the TC INT/EXT switch to INT. (Internal time code selected)
- 4 Set the RUN MODE (setup menu No. 510)  
**REC (RUN):** The time code runs at the same time as the recording proceeds.  
**FREE (RUN):** The time code runs in the same way as the time regardless of the VTR's operation.
- 5 Set the REGEN MODE. (setup menu No. 504)  
**OFF (REGEN):** Continuity is maintained with the recorded time code before editing. (Detailed settings are also possible using the menu settings. See the menu items below.)  
**ON (PRESET):** Recording starts from the value set with the TC PRESET button. Setting menu No. 503 (TCG REGEN)
- 6 Set the TC PRESET button.  
 Use the TC PRESET button to set the start number of the time code or user bit.
  - 1 The leftmost digit flashes.  
 Align the flashing light and the digit to be set with the cursor buttons (◀, ▶).
  - 2 Press the cursor button ▲ or ▼ to change the value.  
 Each time the button is pressed, the number changes. The setting range is given below.
    - When using the time code and user bit in real time  
 00:00:00:00 – 23:59:59:24
    - User bit  
 00 00 00 00 – FF FF FF FF
  - 3 Repeat steps 1 and 2 to change the value.
  - 4 When the setting of the start number is completed, press the SET button. In the FREE RUN mode, the time code now starts running.
  - 5 Proceed with the recording or editing.

### 2. Setting the external time code (TC switch → EXT)

- 1 Place the VTR in the stop mode.
- 2 Set the TC/CTL/UB switch to TC.
- 3 Set the TC INT/EXT switch to EXT. (External time code selected)
- 4 Setting menu No. 505 (EXT TC SEL) can be set as follows.  
**LTC:** The LTC signal input to the TIME CODE IN connector (BNC) on the rear jack panel is recorded as the time code.  
**<Note>** The LTC signal must be synchronized with the video signal.  
**VITC:** The input video signal's VITC is recorded as the time code.

## Reproducing the time code/user bit

- 1 Place the unit in the stop mode.
- 2 Set the CTL/TC/UB switch to TC or UB.  
 TC: The time code is displayed.  
 UB: The user bit is displayed.  
 • When it is no longer possible to read the time code, it is interpolated using the CTL signal.
- 3 Press the PLAY button.  
 Playback now commences, and the time code appears on the display.  
 When setting menu No.006 (SUPER) is ON, the time code value is superimposed onto the video signal from the VIDEO OUT 3 connector.

### <Notes>

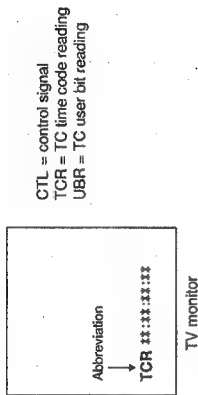
- The colon between the seconds and frames changes to a period when the drop frame time code is read.
  - When the time code signal cannot be read, the time code is automatically interpolated by the CTL signal.
- The superimposed appears as shown below.

T \* R 00:01:04:07

When the time code signal cannot be read, an asterisk ( \* ) is displayed on the superimposed TV monitor.

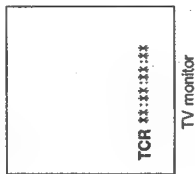
## Superimpose screen

The control signals, time code, etc. are displayed using abbreviations.



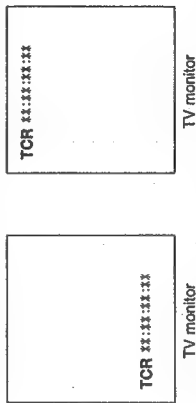
### Characters displayed

The background of characters superimposed on the display can be changed using menu No.007 (CHARA TYPE).



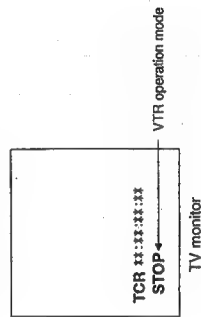
### Display position

The position of the characters superimposed on the display can be changed using setting menus No.001 (CHARA H-POS) and No.002 (CHARA V-POS).



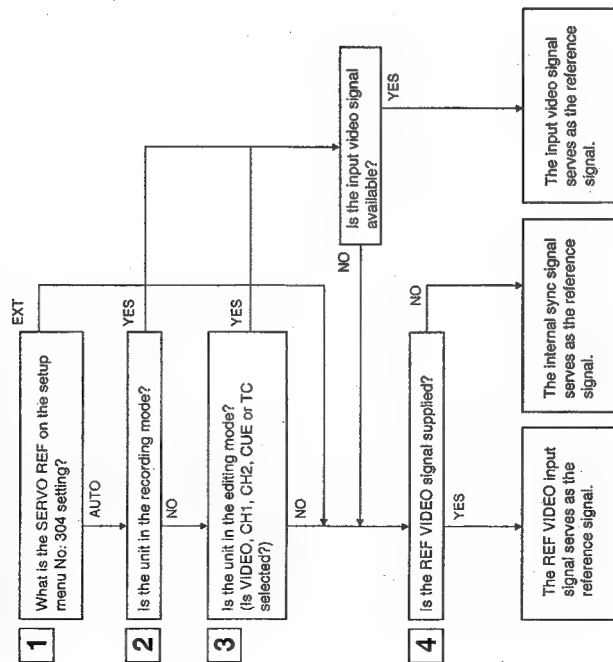
### Operation mode

The VTR's operation mode can also be displayed using setting menu No.003 (DISPLAY SEL).





This unit automatically selects the input video signal selected by the INPUT switch, the reference video signal supplied from the REF VIDEO input connector or the internal sync signal as the servo reference signal. When the signal is selected, the unit's mode and servo reference stand in the relationship shown in the flowchart presented below.



The servo reference signal is switched as shown in the tables below depending on the servo reference setting, deck mode and what input signal is available. When the mode is transferred to editing or recording/playback, the image may be disturbed and the transfer may be delayed if the references during playback and recording do not match.

■ During playback or special playback

SERVO REF on the setup menu No. 304 position	Input signal status		Reference signal (servo reference)
	VIDEO IN signal	REF IN signal	
AUTO	○	○	REF IN signal
	○	×	Internal sync signal
	×	○	REF IN signal
	×	×	Internal sync signal
EXT	○	○	REF IN signal
	○	×	Internal sync signal
	×	○	REF IN signal
	×	×	Internal sync signal

■ During recording or editing

SERVO REF on the setup menu No. 304 position	Input signal status		Reference signal (servo reference)
	VIDEO IN signal	REF IN signal	
AUTO	○	○	VIDEO IN signal
	○	×	VIDEO IN signal
	×	○	REF IN signal
	×	×	Internal sync signal
EXT	○	○	REF IN signal
	○	×	Internal sync signal
	×	○	REF IN signal
	×	×	Internal sync signal

“○” denotes that the signal is supplied. “×” denotes that the signal is not supplied.

## Audio V Fade Function (AJ-D650 only)

When editing tapes, the edit point splicing selection (setting menu No. 309 and 310) information is recorded on the tape. This information is then sensed during playback, and V fade or cut processing is automatically performed for these sections. [However, only when the playback fade selection (No. 719) is AUTO.]

When the edit point splicing selection (setting menu No. 309 and 310) is CUT



Noise may appear at the edit splice.

When the edit point splicing selection (setting menu No. 309 and 310) is FADE



V fade is performed instantaneously to eliminate the noise.

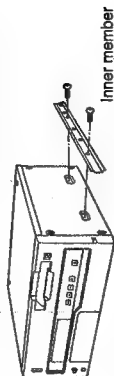
### <Notes>

- When the playback fade selection (No. 719) is CUT, cut processing is performed for all splices.
- When the playback fade selection (No. 719) is FADE, V fade processing is performed for all splices.

## Rack mounting

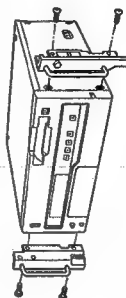
The unit can be mounted into a 19-inch standard rack if the optional rack-mounting adaptors (AJ-MA34HP) are used. For the installation rails, it is recommended that the rail and bracket for 18" length (model number CC3001-99-0400) of SHASSIS TRAK be used. (The complete slide rail and bracket unit is not available from Panasonic) For further details, consult with your dealer.

- 1 Remove the screws on the left and right sides of the unit.
- 2 Use the removed screw to attach the inner members of the slide rails.

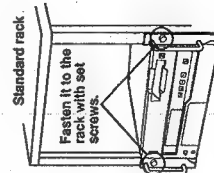


The length of the screws used is subject to restriction. If some of the mounting screws have been lost or misplaced, use screws which are less than 4" long in their place. Use four screws to secure each inner member.

- 3 Attach the outer member brackets to the rack. Check that the height is the same for the left and right brackets.
- 4 Attach the AJ-MA34HP rack-mounting adaptors with included 4 screws.



- 5 Remove the 4 rubber legs from the bottom of the unit, and install the unit in the rack. After the unit has been installed, check that it moves smoothly along the rails.



### <Notes>

- Keep the temperature inside the rack to between 5°C and 40°C by well ventilated condition.
- Bolt the rack securely to the floor so that it will not topple over when the VTR is drawn out.

## Video head cleaning

This unit has an auto head cleaning function which automatically reduces the dirt on the heads. However, to further increase the unit's reliability, it is recommended that its video heads be cleaned every day.  
Use the cleaning fluid designated by Panasonic.

## Condensation

Condensation occurs due to the same principle involved when droplets of water form on a window pane of a heated room. It occurs when the unit or tape is moved between places where the temperature or humidity varies greatly or when, for instance:

- It is moved to a very humid place full of steam or a room immediately after it has been heated up.
- It is suddenly moved from a cold location to a hot or humid location.

When moving the unit to locations such as these, leave it standing for about 10 minutes rather than switching on the power immediately. If condensation has formed on or in the unit, the "E-20" code flashes in the counter display and the cassette tape is automatically ejected.  
Keep the power supplied and simply wait until the "E-20" code goes off.

- Do not insert fingers or any objects into the video cassette holder.
- Avoid operating or leaving the unit near strong magnetic fields. Be especially careful of large audio speakers.
- Avoid operating or storing the unit in an excessively hot, cold, or damp environment as this may result in damage both to the recorder and to the tape.
- Do not spray any cleaner or wax directly on the unit.
- If the unit is not going to be used for a length of time, protect it from dirt and dust.
- Do not leave a cassette in the recorder when not in use.
- Do not block the ventilation slots of the unit.

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## Error messages

### Warning

Error No.	TV monitor display*	Descriptions	VTR operation
E-00* (Err-00)	SERVO NOT LOCKED	Error No. lights when servo disturbances continue for 3 or more seconds during playback, recording or editing.	Continued
E-01* (Err-01)	LOW RF	Error No. lights when envelope levels approx. 1/3 that of normal levels are detected for more than 1 sec. during playback, recording or editing.	Stop
E-10* (Err-10)	FAN STOP	Error No. lights when a fan motor stops operating.	Stop

\* Displays when warning information is checked by pressing the DIAG button.

### AUTO OFF mode

The following error number flashes on the counter display section.

Error No.	Descriptions	VTR operation
E-20	When condensation is detected, the error no. display flashes, and the unit goes into EJECT mode. The drum rotates after the cassette tape is ejected to remove condensation. When the condensation has been removed, the error no. display disappears and the VTR may be used. -Notes- 1) The drum rotates as soon as condensation is detected when the unit is in EJECT mode. 2) When condensation is detected while a cassette tape is inserted, drum rotation stops, the cassette tape is ejected and the drum rotation begins again. The cassette does not move up even when 6 seconds have elapsed since the VTR was transferred to the eject mode. The unloading operation is not completed within 10 seconds.	EJECT
E-29	There is no response from the servo microcomputer for 1 or more seconds.	Stop
E-31	Only the servo microcomputer was reset in an instantaneous power failure.	Stop
E-35	The servo microcomputer does not follow the instructions of the system control microcomputer even when 10 seconds have elapsed.	Stop
E-36	After the cassette has been inserted, the tape take-up reel has not wound up the tape while the total tape amount is not detected and while the tape is traveling at or above the normal tape speed in the forward or reverse direction.	Stop
E-37	After the total tape amount has been detected, the amount of tape wound up on the take-up reel and the amount of tape supplied by the supply reel differ to an abnormal extent while the tape is travelling.	Stop
E-52	The tape has not been wound up during unloading.	Stop
E-53	The start/end processing operation is not completed even after 10 or more seconds have elapsed.	Stop
E-55	The cylinder motor speed is abnormally low.	Stop

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## Error messages

Error No.	Descriptions	VTR operation
E-60	The cylinder motor speed is abnormally high.	Stop
E-61	The capstan motor speed is abnormally low.	Stop
E-67	The tape-up reel motor speed is abnormally high.	Stop
E-69	An abnormal torque applied to the take-up reel motor is detected.	Stop
E-70	An abnormal torque applied to the supply reel motor is detected or if an abnormal current flowing to the current-sensing resistor is detected.	Stop
E-71	An abnormal tension at the supply side is detected in the capstan mode.	Stop
E-72	An abnormal tension at the supply side is detected in the reel mode.	Stop
E-73	The reel motor at the take-up side is running in the reverse direction.	Stop
E-FF	Tape start and end are detected simultaneously during loading or after loading is completed.	Stop

## Connector signals

### VIDEO IN

SERIAL IN (DIGITAL)	BNC x2	Active through (Option)
Y, Pb, Pr (ANALOG)	BNC x3	
VIDEO IN	BNC x2	Loop-through, 75Ω termination switch provided
REF VIDEO IN	BNC x2	Loop-through, 75Ω termination switch provided
S1-VIDEO IN	4-pin x1	

### VIDEO OUT

SERIAL OUT (DIGITAL)	BNC x3	(Option)
Y, Pb, Pr (ANALOG)	BNC x3	
VIDEO OUT	BNC x3	
S1-VIDEO IN	4-pin x1	

### AUDIO IN

SERIAL IN (DIGITAL)	BNC x2	(Option)
AUDIO IN (DIGITAL)	BNC x1	CH1/CH2 AES/EBU format (Option)
AUDIO IN (ANALOG)	XLR x2	CH1, CH2 (Option)
TIME CODE IN	BNC x1	

### AUDIO OUT

SERIAL OUT (DIGITAL)	BNC x3	(Option)
AUDIO OUT (DIGITAL)	BNC x1	CH1/CH2 AES/EBU format (Option)
AUDIO OUT (ANALOG)	XLR x2	CH1, CH2
TIME CODE OUT	BNC x1	
MONITOR OUT	PHONO x1	
HEADPHONES (front)	1/4" phone x1	

## RS-422A REMOTE (9P)

### REMOTE

Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	FRAME GROUND	4	RECEIVE COMMON	7	TRANSMIT B
2	TRANSMIT A	5	-----	8	RECEIVE A
3	RECEIVE B	6	TRANSMIT COMMON	9	FRAME GROUND

## Connector signals

### RS-232C REMOTE (25-pin D-SUB straight cable supported)

Pin No.	Abbreviation	Circuit	Description
1	FRAME GROUND	Protective ground	Frame ground
2	TxD	Transmitted data	Receives data from the PC.
3	RxD	Received data	Sends data to the PC.
4	RTS	Request to send	Shorted with pin 4.
5	CTS	Clear to send	Shorted with pin 5.
6	DSR	Data set ready	Positive power output after communication enable status
7	GND	Signal ground	Signal ground
20	DTR	Data terminal ready	No processing

• Example of connections with controller (PC) using a 25-pin D-SUB straight cable

PC end (D-SUB 25 pins) VTR end (D-SUB 25 pins)

FG	1	1	FG
TxD	2	2	TxD
RxD	3	3	RxD
RTS	4	4	RTS
CTS	5	5	CTS
DSR	6	6	DSR
GND	7	7	GND
DTR	20	20	DTR

### ENCODER REMOTE (15P)

Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	—	6	SYSTEM H	11	RET GND
2	SET UP	7	SYS.SC COARSE (2)	12	—
3	C LEVEL	8	-12V	13	—
4	GND	9	HUE	14	SYS.SC FINE
5	+12V	10	VIDEO LEVEL	15	SYS.SC COARSE (1)

# SECTION 2

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## SERVICE INFORMATION

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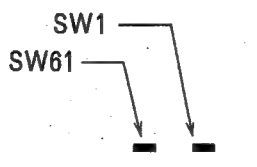
## 1. Comparison of main features between AJ-D650, AJ-D640 and AJ-D750

	AJ-D750	AJ-D650	AJ-D640
① Front Panel			
▪Search Dial	○	×	×
▪Buttons concerning Editing	○	×	×
▪Tiltable Mechanism	○	×	×
▪Service DIP SW	○	×	×
② Input/Output			
▪S-VIDEO IN/OUT	×	○	○
▪AUDIO MONITOR connector	XLR	PHONO	PHONO
▪TIME CODE connectors	XLR	BNC	BNC
▪CUE IN/OUT	○	×	×
▪AES/EBU DIF	○	Option (AJ-YA655P)	Option (AJ-YA655P)
③ Editing Function	○	○	×
④ Simultaneous Playback	○	×	×

## 2. Selection of Audio Input Impedance

	Printed circuit board	Ref.No	Setting	Factory setting
CH1 Audio Input Impedance	F8 ADDA CUE	SW1	HIGH/600Ω	HIGH
CH2 Audio Input Impedance	F8 ADDA CUE	SW61	HIGH/600Ω	HIGH

F8 ADDA CUE P.C.Board





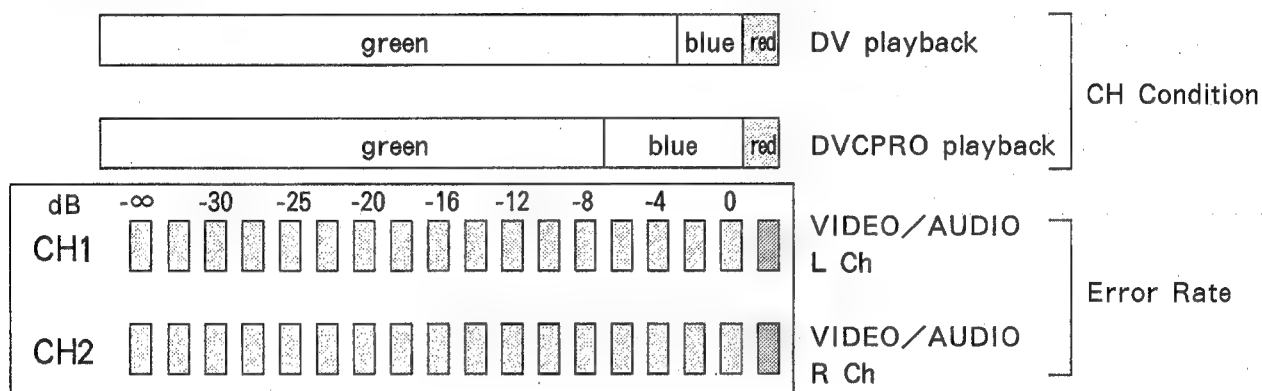
### 3. Service menu mode

Service test mode is used for adjustment and displaying error rate.

- ① Press the MENU button, then the Setup menu appears on the TV monitor.
- ② Pressing the EJECT button and the STOP button simultaneously, press the MENU button. Then the Service menu appears at VIDEO 3 OUT.

### 4. Error rate display

The error rate is displayed on the AUDIO LEVEL METER in Service menu mode.  
(When enters in Service menu mode, the AUDIO LEVEL METER changes into the error display mode automatically.)



When "CH1" lamp of AUDIO LEVEL METER lights :

The upper portion of Level Meter shows the error rate of "AUDIO L ch".  
The lower portion of Level Meter shows the error rate of "AUDIO R ch".

When "CH2" lamp of AUDIO LEVEL METER lights :

The upper portion of Level Meter shows the error rate of "VIDEO L ch".  
The lower portion of Level Meter shows the error rate of "VIDEO R ch".

Switching between AUDIO error mode and VIDEO error mode is enabled by pressing the DIAG button in the pocket of front panel.

## 5. Hour Meter

- ① When the DIAG button is pressed, VTR information is displayed. When it is pressed again, the original display is restored.
- ② There are two types of VTR information : "HOUR METER" information and "WARNING" information. Switching between these types is enabled by pressing the cursor buttons (◀, ▶).
- ③ Indicated on the "HOUR METER" screen are the power on time (OPERATION), drum rotation time (DRUM RUN), tape travel time (TAPE RUN), loading count (THREADING).  
The HOUR METER informations appear on the screen as indicated below.

* H00	OPERATION	200H
H01	DRUM RUN	50H
H02	TAPE RUN	30H
H03	THREADING	100T
H11	DRUM RUN r	50H
H12	TAPE RUN r	30H
H13	THREADING r	100T
END		

### 《How to Reset》

Note : Resettable informatins are DRUM RUN r, TAPE RUN r and THREADING r.

- ① Set the Dip SW501-1 on the F2 SYSCON P.C.Board to ON position.
- ② In EJECT mode, set the cursor "\*" to the information to be reset by pressing the cursor buttons (▲, ▼) and press "RESET" button. Then the following message appears on the screen for example.

DRUM RUN r OK?  
YES <PLAY> / NO <STOP>

When the PLAY button is pressed, the reset function is executed.  
When the STOP button is pressed, the reset command is canceled.

## 6. How to confirm the software version

Press the PLAY and STOP buttons simultaneously, then the software version appears on the display of front panel.

If the PLAY and STOP buttons are pressed repeatedly, the display of software changes step by step.

Note : After power ON, the software versions except front don't appear on the display. They appear after pressing the EJECT button.

SY	P 1 0 0	(SYSCON)
SU	P 1 0 6	(SERVO)
AV	P 1 0 1	(A/V)
S1	1 0 4	(SBC 1)
S2	1 0 4	(SBC 2)
IF	P 1 0 0	(I/F)
Fr	1 0 0 _	(FRONT)

# SECTION 3

## MAINTENANCE & MECHANICAL ADJUSTMENT

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# 1. Maintenance

## 1-1. Maintenance Parts Chart

	Name	Part Number	Using Hours (hrs)				
			500	1500	3000	4500	6000
	Tape Path Cleaning		△	△	△	△	△
1	Cylinder Unit	VEG1337		●	●	●	◎
2	A/C Head	VBR0301					◎
3	S Reel(Rotor Unit)	VXP1681					◎
4	T Reel(Rotor Unit)	VXP1681					◎
5	Loading Motor 1 Unit	VEM0584					◎
6	Pinch Arm Unit	VXL2684		●*1	●*1	●*1	◎
7	S Brake Arm Unit	VXZ0424					◎
8	T Brake Arm Unit	VXZ0425					◎
9	Mode Switch Unit	VES0814					◎
10	Cleaning Arm Unit	VXL2693		●	●	●	◎
11	Pinch Solenoid	VSJ0217					◎
12	S Brake Solenoid	VSJ0216					◎
13	T Brake Solenoid	VSJ0216					◎
14	MIC Rail Unit	VXA5577					◎
15	S1 Loading Arm Unit	VXL2709			●		◎
16	T1 Boat Unit	VXA5852			●		◎
17	Cleaner Solenoid	VSJ0222					◎
18	Reel Drive Motor Unit	VEM0585					◎
19	S5 Post Base Unit	VXA5553			●		◎
20	Tension Arm Unit	VXL2734			●		◎
21	Main Cam Gear	VDG1168					◎
22	M Stopper Solenoid	VSJ0216					◎
	Front Loading Unit	VXA5850					●
	Mech. Chassis Unit	VXY1254					●
	Fan Motor	VRF0190			●		●

**Note:** Using Hours are based on the head rotation hours.

Using hours are recommendation. It may depend on temperature, humidity or dusty.

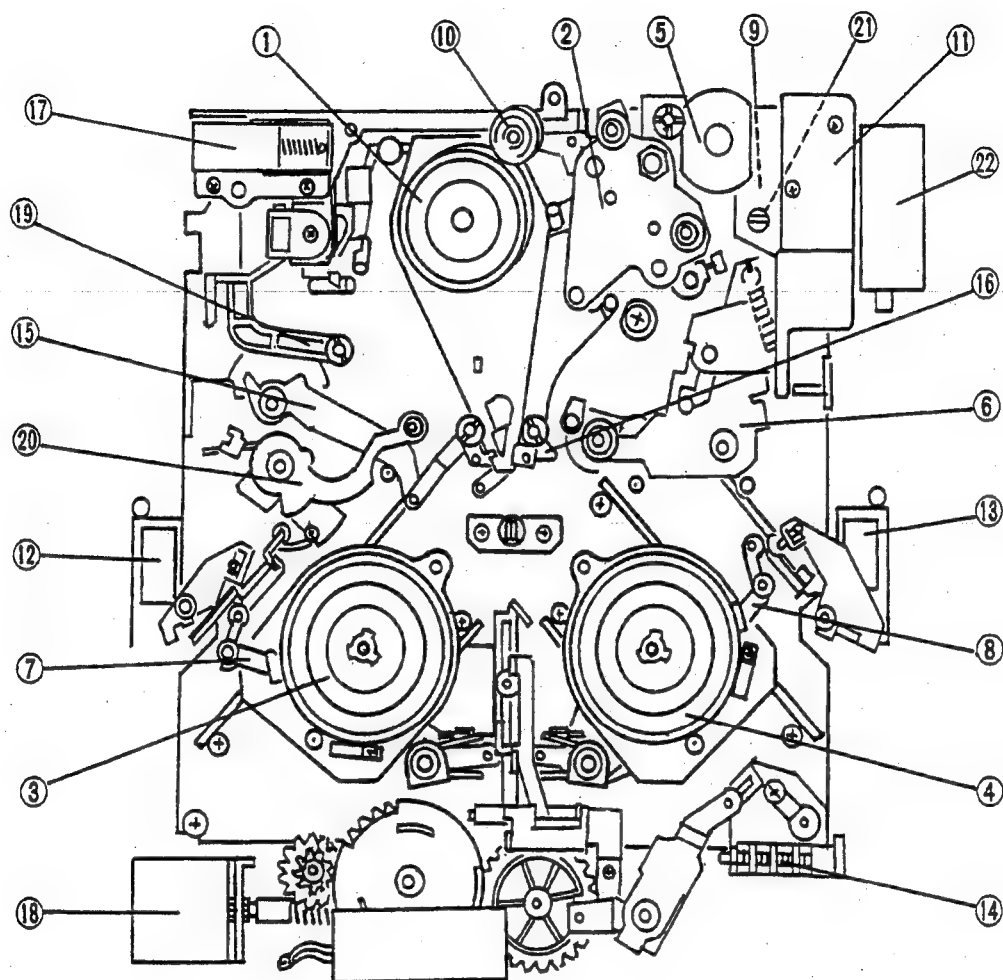
Using hours are listed as the reference of maintenance. They do not mean guarantee hours.

●:This mark means replacement is necessary.

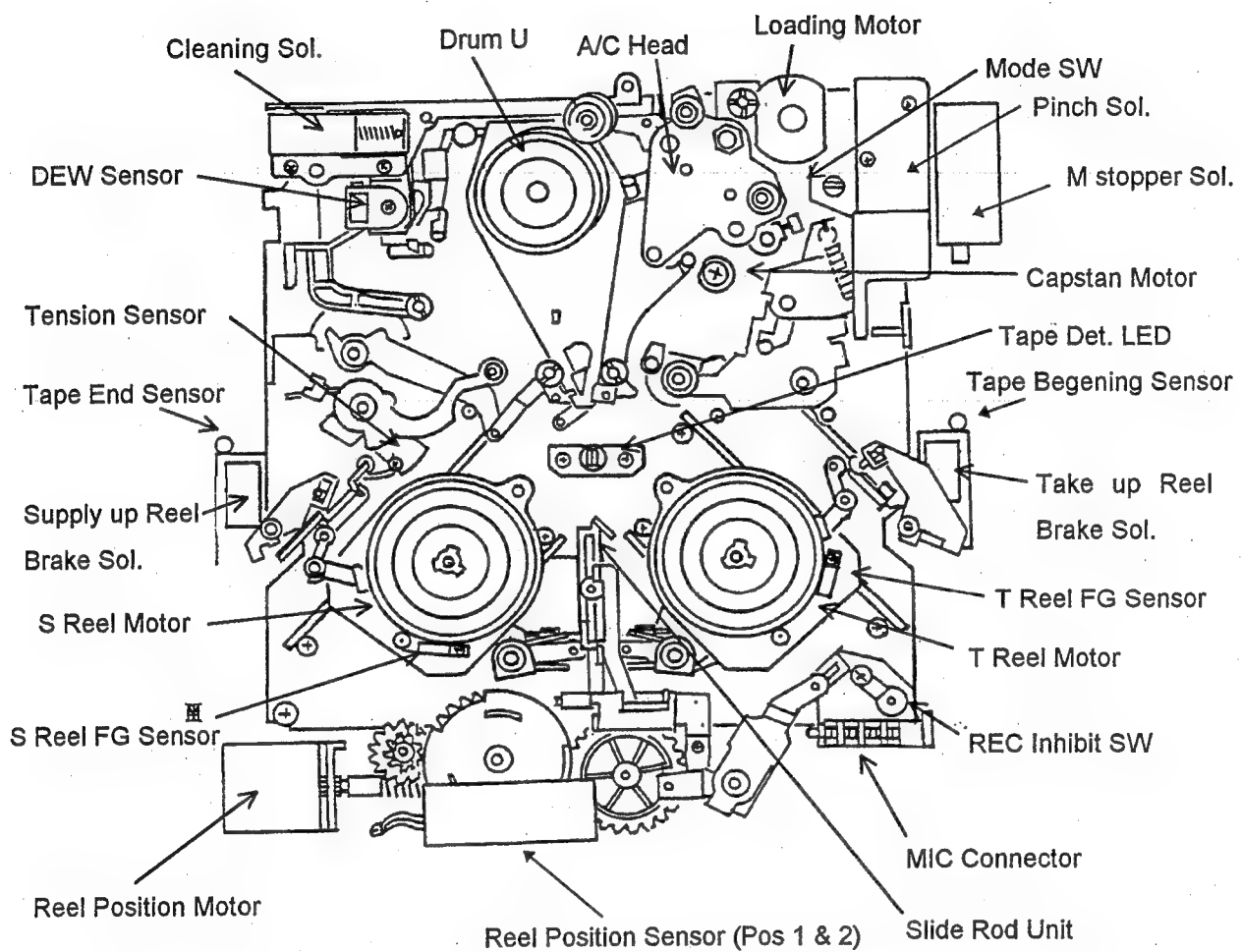
◎:These parts included in Mech. Chassis Unit. Replacing Mech. Chassis Unit is recommended.

\* 1. The lubrication is necessary when replacing the Pinch Arm Unit.

△:This mark means cleaning is necessary. Detail cleaning procedures are written in section 4.



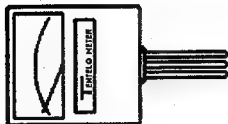

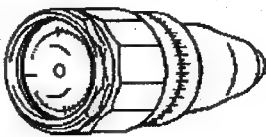



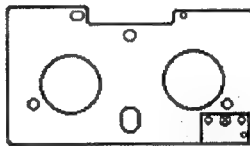
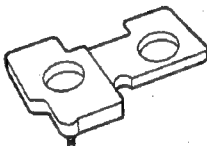



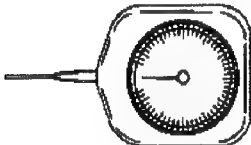


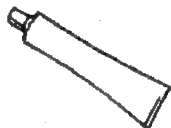



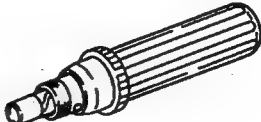
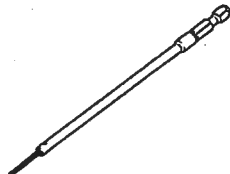
## 1-2. Sensor Layout

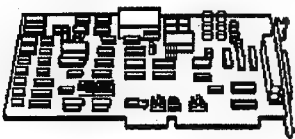
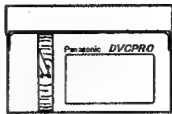
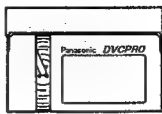
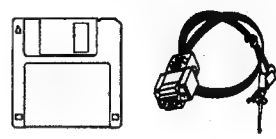

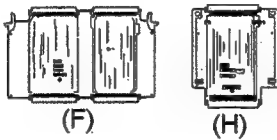
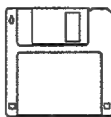

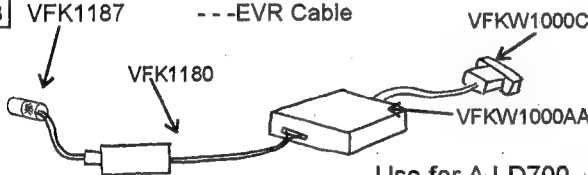







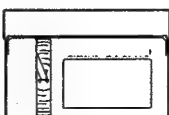
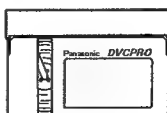
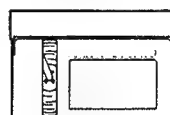


### 1 – 3 . Servicing Fixtures & Tools

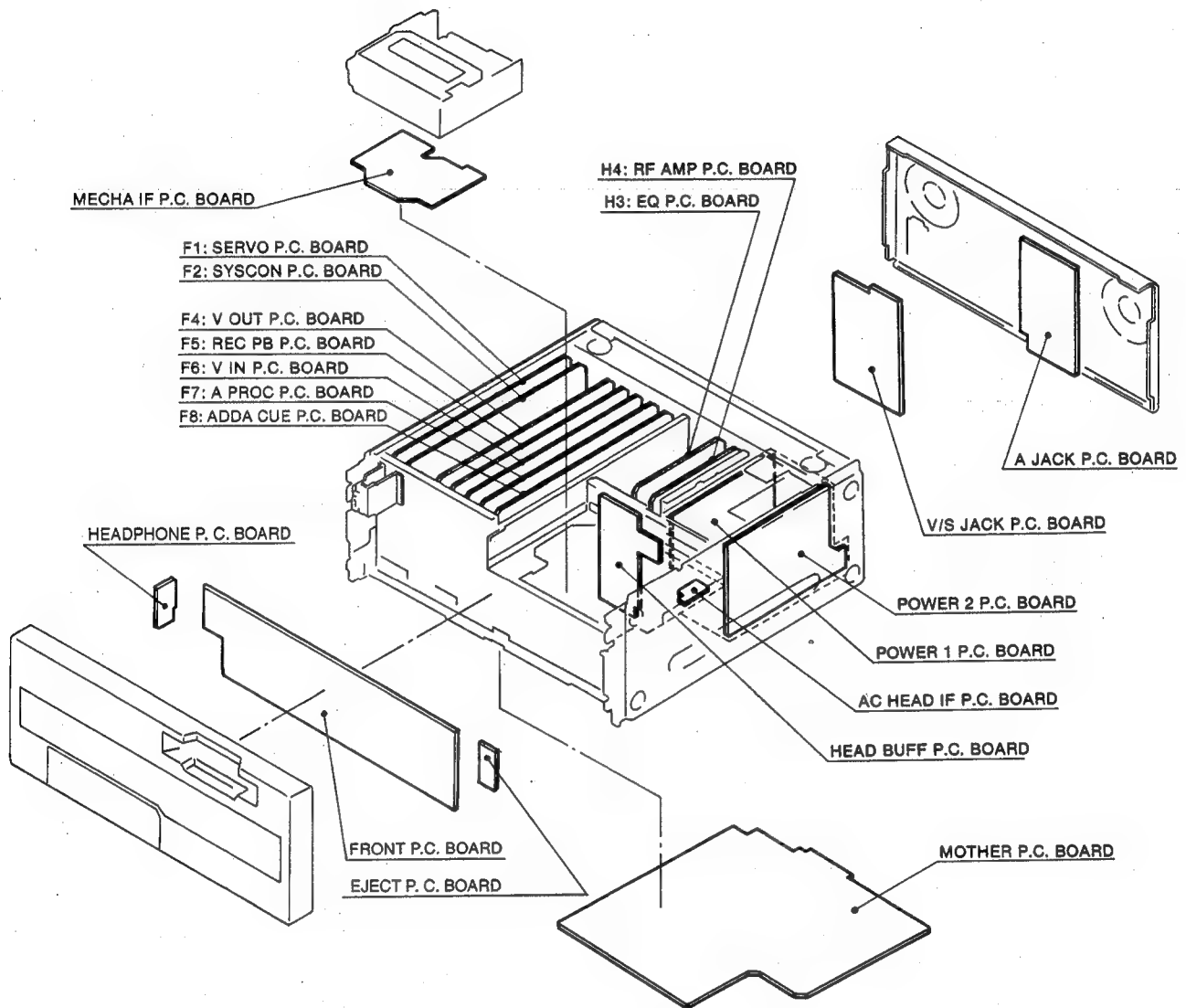
Fig	ITEM	PART No.	JIG & EQUIPMENT	NTSC	PAL	Remark
1	Jig Tool	VFK1145	Back Tension Meter (T2-M30-P)	yes	yes	
2		VFK1149	Post Driver	yes	yes	
3		VFK71	Dial Torque Gauge (150g)	yes	yes	
4		VFK1191	Dial Torque Gauge (45g)	yes	yes	
5		VFK1152	Dial Torque Gauge Adaptor	yes	yes	
6		VFK0357	Eccentric Screwdriver (1.5)	yes	yes	
7		VFK1154	Post Height Fixture	yes	yes	
8		VFK1153	Mech. Neutral Plate (Post)	yes	yes	
9		VFK1157	Mech. Neutral Plate (Cassette)	yes	yes	
10		VFK1155	Neutral Position Tool (Gold)	yes	yes	
11		VFK1156	Neutral Position Tool (Black)	yes	yes	
12		VFK1208	Neutral Position Tool (Black With Hole)	yes	yes	
13		VFK1150	Nut Driver (5.5mm)	yes	yes	
14		VFK1151	Nut Driver (2.5mm)	yes	yes	
15		VFK1188	Dial Tension Gauge (30g)	yes	yes	
16		VFK0948	Check Light	yes	yes	
17		VFK0749	Froiral Grease (for plastic)	yes	yes	
18		MOR265	Morlytone Grease (for metal)	yes	yes	
19		VFK1146	Phillips Driver (Fine)(00-75)	yes	yes	
20		VFK1147	Phillips Driver (Fine)(0-100)	yes	yes	
21		VFK1148	Hex. Driver (1.5)	yes	yes	
22		VFK1178	Hex. Driver (0.89)	yes	yes	
23		VFK1179	Hex. Driver (0.71)	yes	yes	
24		VFK1190	Hex. Wrench	yes	yes	
25		VFK1209	Torque Driver (0.4-3Kg)	yes	yes	
26		VFK0912	Post Axis Driver (1.5mm)	yes	yes	
27		DAQ-12	A/D Board	yes	yes	Purchase locally
28		VFM3580KM	Alignment Tape (No. 1)	yes	no	
29		VFM3581KM	Alignment Tape (No. 2)	yes	no	
30		VFM3582KM	Alignment Tape (No. 3)	yes	no	
31		AJ-CL12MP	Cleaning Tape	yes	yes	SALES
32		VFK1159	LISTA Software	yes	yes	
33		VFK1186	LISTA CABLE	yes	yes	
34		VFK1194	EXTENSION BOARD	no	no	for AJ-D700
35		VFK1192	F EXTENSION BOARD	yes	yes	
36		VFK1193	H EXTENSION BOARD	yes	yes	
37		VFK1162	EVR Tool Software	no	no	for AJ-D700
38		VFK1158	B.E.R. Counter Tool	no	no	for AJ-D700
39		VFK1185	B.E.R. Counter Cable	no	no	for AJ-D700
40		VFKW1000AA	EVR I/F Box Unit	no	no	for AJ-D700
41		VFKW1000C	EVR RS232C Cable	no	no	for AJ-D700
42		VFK1180	EVR SUB I/F Unit	no	no	for AJ-D700
43		VFK1187	EVR Cable	no	no	for AJ-D700
44		VFK1210	Multi-Canon Cable	no	no	for AJ-D700
45		VFK0369	Tweezers	yes	yes	
46		VFK0371	Radio Prier	yes	yes	
47		VFK0372	Cutter Prier	yes	yes	
48		VFK0338	Trimmer Adjustment Driver	yes	yes	
49		VFK0337	Phillips Driver	yes	yes	
50		VFM3000EDS	Alignment Tape (DV LISTA)	yes	yes	
51		VFM3010EDS	Alignment Tape (DV Color Bar)	yes	no	
52		VFM3680KM	Alignment Tape (No. 1)	no	yes	for PAL
53		VFM3681KM	Alignment Tape (No. 2)	no	yes	for PAL
54		VFM3682KM	Alignment Tape (No. 3)	no	yes	for PAL
55		VFM3110EDS	Alignment Tape (DV Color Bar)	no	yes	for PAL



<p>1 VFK1145 Back Tension Meter</p>  <p>Model:T2-M30-P</p>	<p>2 VFK1149 Post Driver</p> 	<p>3 VFK71 (150g) 4 VFK1191(45g) Dial Torque Gauge</p> 	<p>5 VFK1152 Dial Torque Gauge Adapter</p> 
<p>6 VFK0357(φ 1.5) Eccentric Screwdriver</p> 	<p>7 VFK1154 Post Height Fixture</p> 	<p>8 VFK1153 Mech Neutral Plate(Post)</p> 	<p>9 VFK1157 Mech Neutral Plate (cassette)</p> 
<p>10 VFK1155 (REV, White) 11 VFK1156 (PLAY, Black) 12 VFK1208(Neutral,Black With hole)</p>  <p>(White) (Black)</p>	<p>13 VFK1150 Nut Driver(5.5mm)</p>  <p>5.5mm</p>	<p>14 VFK1151 Nut Driver(2.5mm)</p>  <p>2.5mm</p>	<p>15 VFK1188(30g) Dial Tension Gauge</p> 
<p>16 VFK0948(or purchase locally) Check Light</p> 	<p>17 VFK0749 Froiral Grease(White) (for plastic part)</p> 	<p>18 MOR265 Morlytone Grease(Black) (for metal part)</p> 	<p>19 VFK1146 (00 x 75) 20 VFK1147 (0 x 100) Philips Driver</p> 
<p>21 VFK1148(1.5mm) 22 VFK1178(0.89mm) 23 VFK1179(0.71mm) Hex. Driver</p> 	<p>24 VFK1190 (1.5mm) Hex. Wrench</p> 	<p>25 VFK1209 Torque Driver(0.4-3Kg)</p> 	<p>26 VFK0912 Post Axis Driver(1.5mm)</p> 

<div>27</div> <div>DAQ-12</div> <div>A/D Converter Board</div> <div>(For Quatech. Purchase Locally)</div> <div></div>	<div>28</div> <div>VFM3580KM</div> <div>29</div> <div>VFM3581KM</div> <div>30</div> <div>VFM3582KM</div> <div>DVC PRO Alignment Tape</div> <div></div>	<div>31</div> <div>AJ-CL12MP</div> <div>Cleaning Tape</div> <div></div>	<div>32</div> <div>VFK1159</div> <div>LISTA Software</div> <div>33</div> <div>VFK1186</div> <div>LISTA Cable</div> <div></div>
<div>34</div> <div>VFK1194</div> <div>Extension Board</div> <div></div> <div>Use for AJ-D700</div>	<div>35</div> <div>VFK1192 --- (F)</div> <div>36</div> <div>VFK1193 --- (H)</div> <div>Extension Board</div> <div></div>	<div>37</div> <div>VFK1162</div> <div>EVR Tool Software</div> <div></div> <div>Use for AJ-D700</div>	<div>38</div> <div>VFK1158</div> <div>B.E.R. Counter Tool</div> <div>39</div> <div>VFK1185</div> <div>B.E.R. Counter Cable</div> <div></div> <div>Use for AJ-D700</div>
<div>40</div> <div>VFKW1000AA ---EVR I/F Box Unit</div> <div>41</div> <div>VFKW1000C ---EVR RS232C Cable</div> <div>42</div> <div>VFK1180 ---EVR SUB I/F Unit</div> <div>43</div> <div>VFK1187 ---EVR Cable</div> <div></div> <div>Use for AJ-D700</div>		<div>44</div> <div>VFK1210</div> <div>Multi-Canon Cable</div> <div></div> <div>Use for AJ-D700</div>	<div>45</div> <div>VFK0369</div> <div>Tweezers</div> <div></div>
<div>46</div> <div>VFK0371</div> <div>Radio Prier</div> <div></div>	<div>47</div> <div>VFK0372</div> <div>Cutter Prier</div> <div></div>	<div>48</div> <div>VFK0338</div> <div>Trimmer Adjustment Driver</div> <div></div>	<div>49</div> <div>VFK0337</div> <div>Philips Driver</div> <div></div>
<div>50</div> <div>VFM3000EDS</div> <div>DV Alignment Tape</div> <div>(LISTA)</div> <div></div>	<div>51</div> <div>VFM3010EDS</div> <div>DV Alignment Tape</div> <div>(Color Bar)</div> <div></div>	<div>52</div> <div>VFM3680KM</div> <div>53</div> <div>VFM3681KM</div> <div>54</div> <div>VFM3682KM</div> <div>DVC PRO Alignment Tape</div> <div></div>	<div>55</div> <div>VFM3110EDS</div> <div>DV Alignment Tape</div> <div>(Color Bar)</div> <div></div>

## 1 - 4 Boards Location



## 1-5. Alignment Tapes

### DVCPRO Alignment Tape

for NTSC

#### VFM3580KM (NTSC)

Time (min)	Video		PCM		CUE	
	Signal	Purpose	Signal	Purpose	Signal	Purpose
0:00	Color Bar SMPTE(75%)	Composite Video Level Confirmation	1kHz -20dB	Audio Level Confirmation	1kHz 0VU	CUE Level Confirmation
7:00	Color Bar Full Field(75%)	Component Video Level Confirmation				
14:00	H Sweep	Frequency Response			6kHz 0VU	A/C Head Azimuth
18:00	Bowtie(500k)	Y/C Timing			1kHz 300Hz~6kHz	Frequency Response
22:00	Pulse&Bar	Y/C Timing				
26:00	Area Markers					
30:00						

#### VFM3581KM (NTSC)

Time(min)	Signal
0:00~20:00	ITI Pattern

#### VFM3582KM (NTSC)

Time(min)	Signal
0:00~10:00	X Value

for PAL

#### VFM3680KM (PAL)

Time (min)	Video		PCM		CUE	
	Signal	Purpose	Signal	Purpose	Signal	Purpose
0:00	Color Bar 100%	Video Level Confirmation	1kHz -18dBu	Audio Level Confirmation	1kHz Reference level	CUE Level Confirmation
10:00	H Sweep	Frequency Response			6kHz Reference level	A/C Head Azimuth
14:00	Area Markers					
18:00	Bowtie(500k)	Y/C Timing			1kHz 300Hz~6kHz	Frequency Response
22:00	Pulse & Bar	Y/C Timing				
26:00	Multi Pulse	Y/C Timing				
30:00						

#### VFM3681KM (PAL)

Time (min)	Signal
0:00 ~ 20:00	ITI Pattern

#### VFM3682KM (PAL)

Time (min)	Signal
0:00 ~ 10:00	X Value

## Recommended Test And Service Equipment

### NTSC

Part No.	Name	Remark
TSG130A(OP.04)	Analog Component Signal Generator	TEKTRONIX
	Oscilloscope	Frequency Band Width more than 100MHz
1760(OP.SC) or 1780R	SCH Meter	TEKTRONIX
520A	Vector Scope	TEKTRONIX
	Digital Volt Meter	
	Frequency Counter	
	VTVM	Frequency Band Width 4Hz-500KHz
HP8591A	Spectrum Analyzer	Hewlett-Packard
	Audio Analyzer	

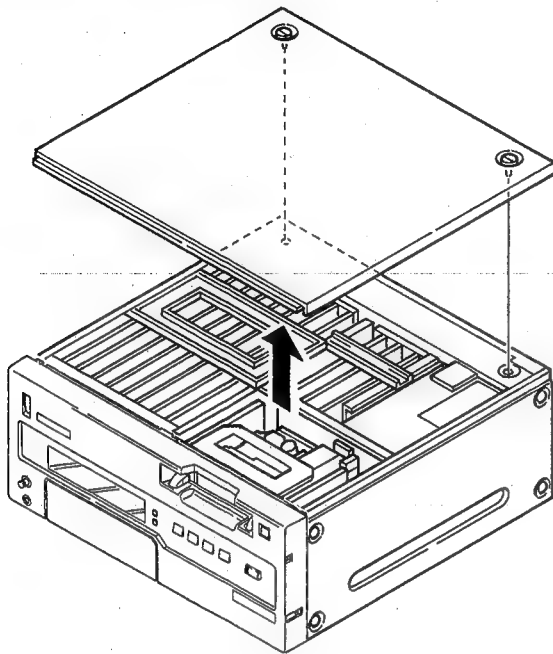
### PAL

Part No.	Name	Remark
TSG131A(OP.04)	Analog Component Signal Generator	TEKTRONIX
	Oscilloscope	Frequency Band Width more than 100MHz
1751(OP.SC) or 1781R	SCH Meter	TEKTRONIX
	Digital Volt Meter	
	Frequency Counter	
	VTVM	Frequency Band Width 4Hz-500KHz
HP8591A	Spectrum Analyzer	Hewlett-Packard
	Audio Analyzer	

## 2. Disassembly Method

### 2-1. Removal of Top Panel

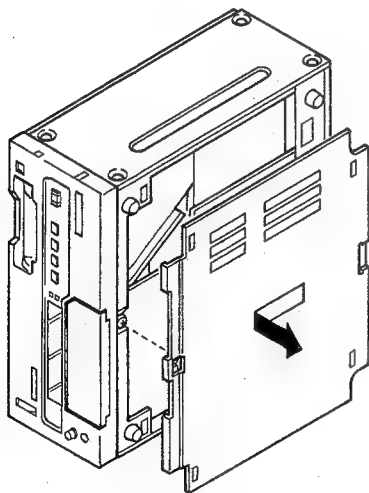
Loosen the two screws on the top panel.



### 2-2. Removal of Bottom Panel

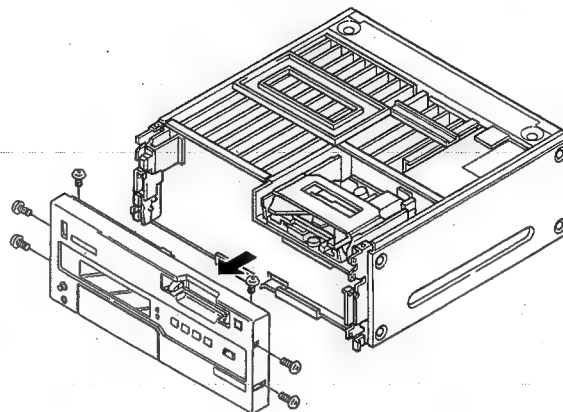
Loosen one screw.

Move the bottom panel to the front direction and remove the bottom panel.



### 2-3. Removal of Front Panel

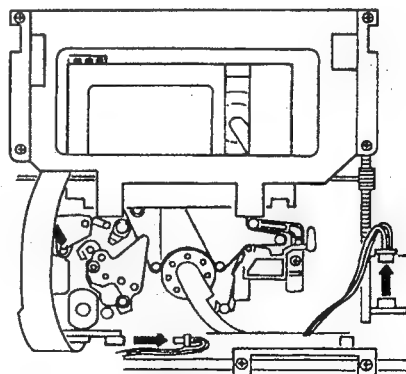
1. Remove the 4 screws at left and right.
2. Remove the 2 screws with Front Panel on the VTR top side.
3. Then draw it and remove the connector and remove the Front Panel.



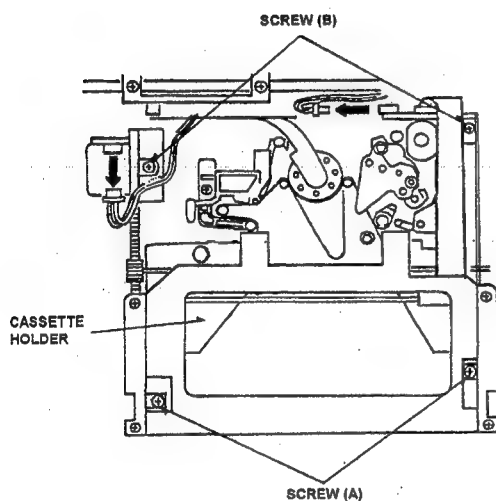
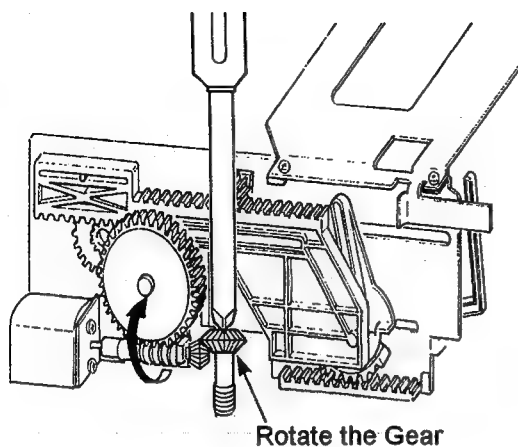
**Note:** After installation of Front Panel, confirm that the Blinder Panel is moved up and down smoothly by hand. If not, the Blinder Panel is caught by Blinder Panel Opener.

### 2-4. Removal of Front Loading Unit

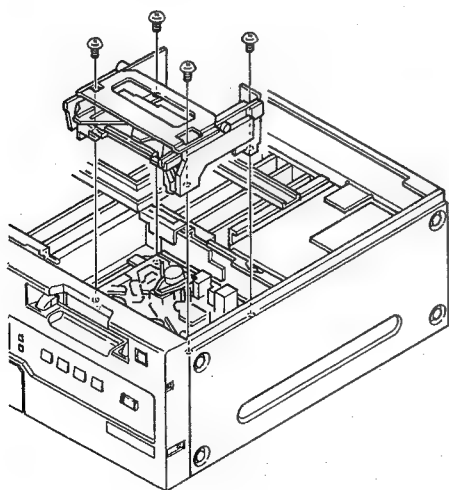
1. Disconnect 2 connectors at Front Loading motor part and the mechanism interconnection board.



2. Rotate the red plastic screw in front of the worm gear of the cassette down motor counterclockwise by a Philips-head screw-driver pushing the screw to move the Cassette Holder unit the 2 screws (A) can be removal position.

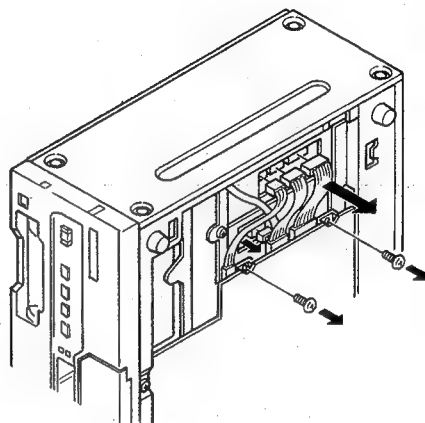


3. Unscrew the 4 screws (A) and (B), then remove the Front Loading Unit.

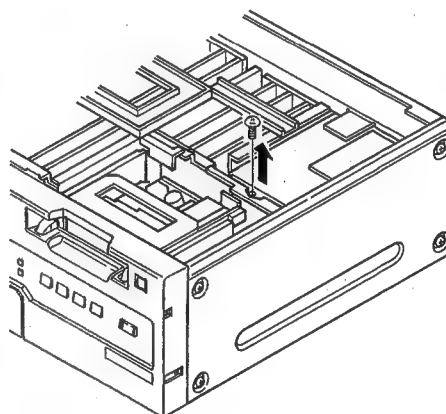


## 2-5. Removal of Power Supply unit

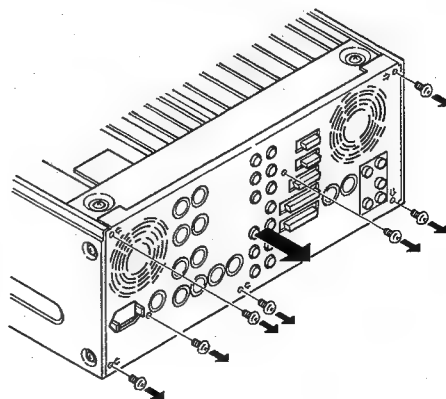
1. Remove 4 connectors with the Power Supply unit on the VTR bottom side.
2. Remove 2 screws with the Power Supply unit on the VTR bottom side.



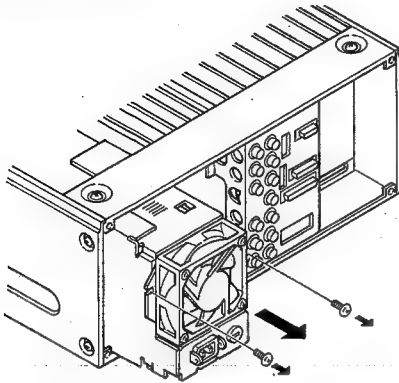
3. Remove 1 screw with the Power Supply unit on the VTR top side.



4. Remove the Rear Jack by removing 7 screws.

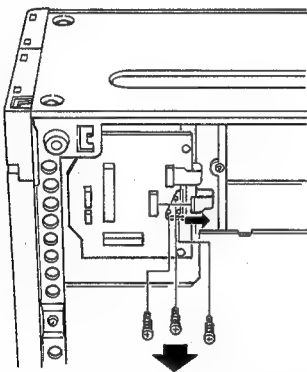


5. Remove 2 screws with the Power Supply unit on the VTR rear side.



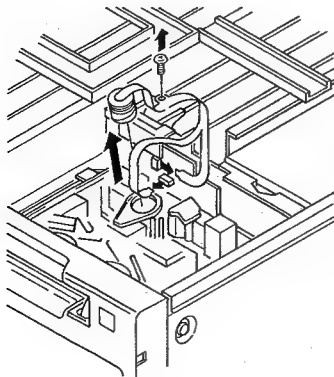
## 2-6. Removal of Cylinder Unit

1. Disconnect the P33 which is connected to the mech. interface on the VTR bottom. Then remove the 3 screws which have spring from the cylinder unit.



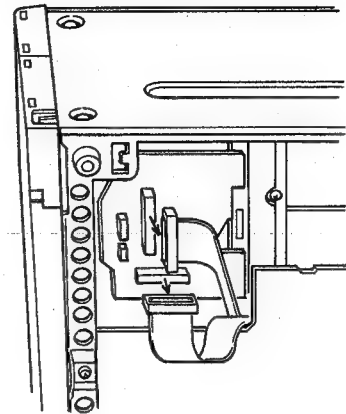
2. Remove the P5003 and P5002 which are connected to Head Buffer board at VTR top, and remove the screw which is attached with the flexible board connector, then remove the cylinder unit without touching any mechanism parts.

- Assemble procedures are reverse of the disassembly method.

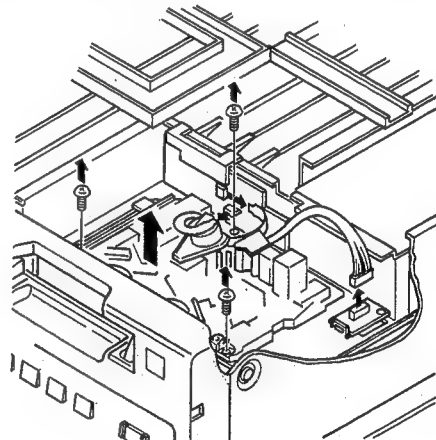


## 2-7. Removal of Mechanism Unit

1. Remove the front loading unit.
2. Remove the connector P1 and P2 which are connected to mech. interface at VTR bottom.



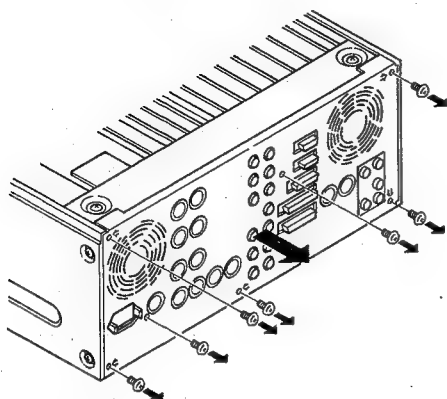
3. Remove the A/C Head cable from the intermediate point, and remove the P5003 and P5002 which are connected between the cylinder unit and Head Buffer board. Then remove the 3 screws and remove the mechanism unit.



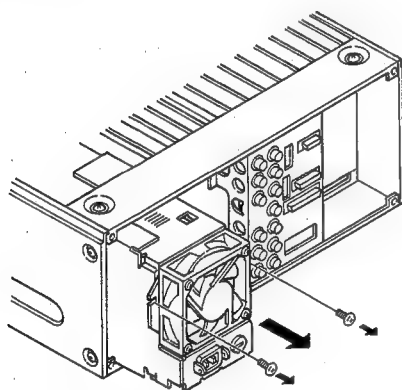


## 2-8. Removal of Fan Motor Unit

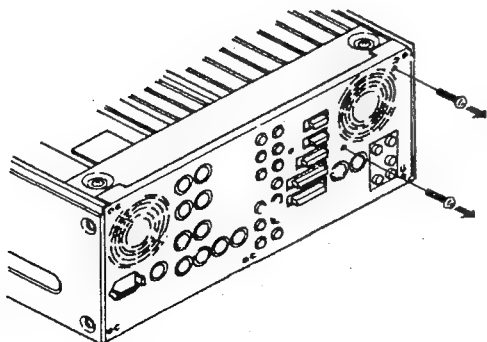
1. Remove the Rear Jack by removing 7 screws.



2. Unscrew the screws and disconnect the connector P14 on the Power 2 P.C.B., then remove the Fan Motor Unit.



3. Unscrew the screws and disconnect the connector P032 on the Mother P.C.B., then remove the Fan Motor Unit.



### 3. Manual Tape Eject

When a tape cannot be ejected, because of Power failure or mechanical tape damage, remove the tape manually.

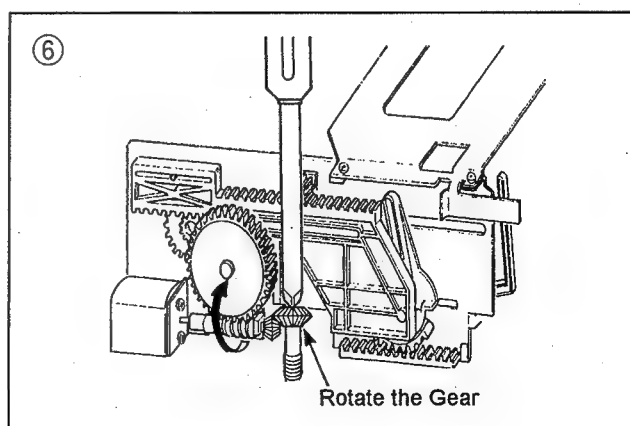
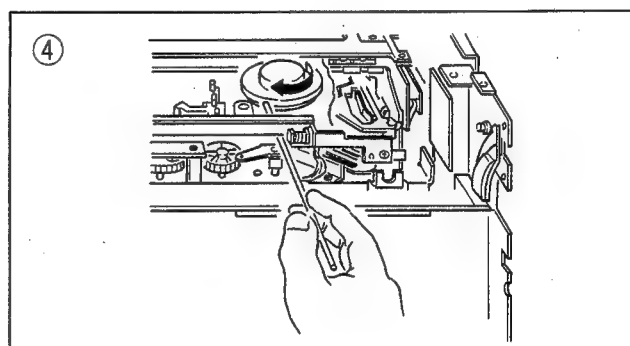
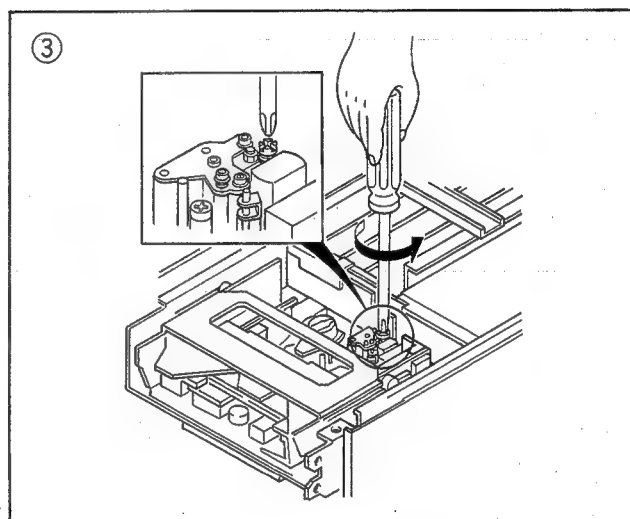
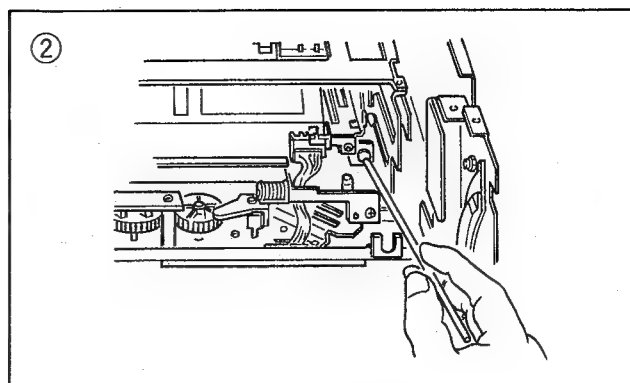
1. Turns power off and remove the top panel and front panel.
2. Release the T Reel brake by pressing the iron core of the T Reel Brake Solenoid.

This is done by a thin stick from the VTR front.

3. Rotate the red plastic screw by a Phillips-head screwdriver counterclockwise pushing the screw. It needs to rotate about 30 times rotation until starting to move.
4. When the post is unloaded, the tape loosens, so take-up reel must be wound the tape to protect tape loosen.

The tape wind method is ; inserting a wood stick(non magnetized) between the cassette and mechanism chassis from the front and rotate the T Reel to tape wind direction.

5. Repeat item 3 and 4 until the tape in wound completely inside of the cassette.
6. When the tape is completely inside of the cassette, rotate the red screw in front of the worm gear of the cassette down motor clockwise by a Phillips-head screwdriver pusing the screw and remove the cassette. Take care so that the cassette cover does not bite the tape when the cover is closed.

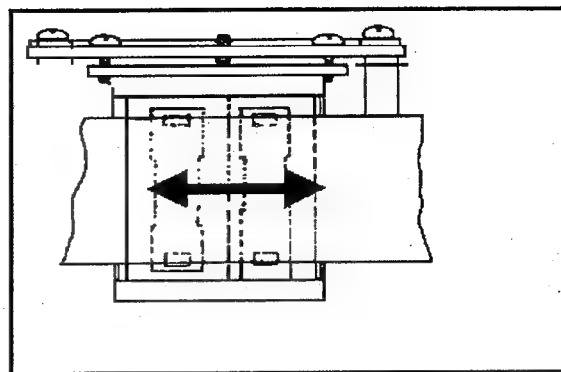
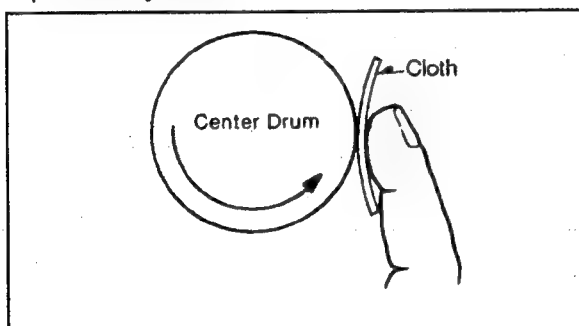


## 4. Cleaning Procedures

Make sure the power is OFF before cleaning. Use ethanol (more than 99% purity) as cleaning liquid.

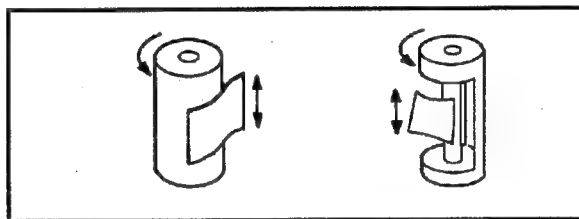
### 4-1. Cleaning of Head Chips :(Daily)

Clean heads by applying even pressure and rotating cylinder a few times. Never wipe in up and down motion. Never touch a cylinder by naked hand. First wipe with a cloth soaked by cleaning liquid. Then wipe with dry cloth.



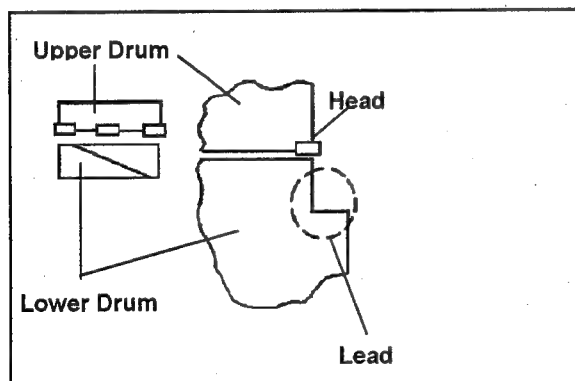
### 4-4. Cleaning of Pinch Roller and Capstan :(Weekly)

Wipe the Pinch Roller and Capstan with a cloth soaked by cleaning liquid.



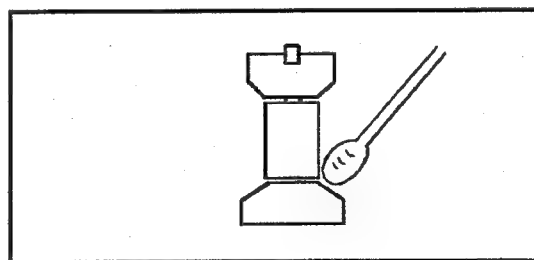
### 4-2. Cleaning of Drum Lead :(Weekly)

Be careful not to touch a head chip. Clean the drum lead with a pick.



### 4-5. Cleaning of Post :(Weekly)

Wind a cloth on a pick. Wipe each post dry with that pick. Wipe again with a dry cloth. For metal posts wipe with cleaning liquid. Then wipe dry again.

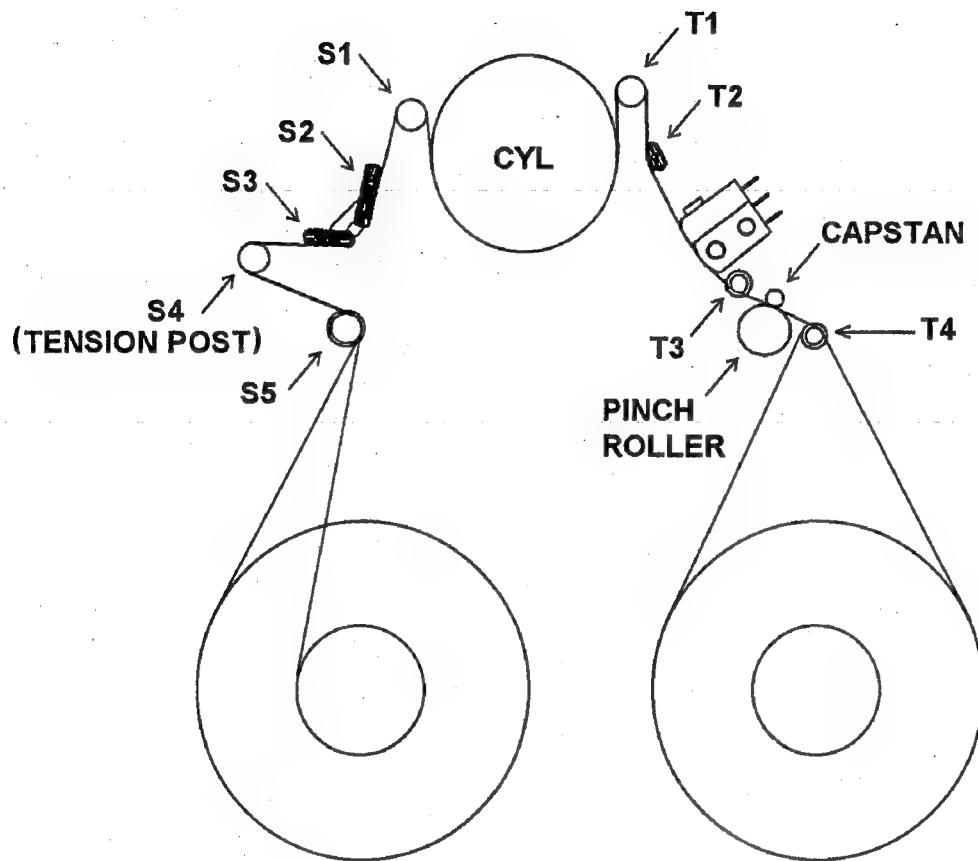


### 4-3. Cleaning of A/C Head :(Weekly)

Wipe the A/C head with a cloth soaked by cleaning liquid. Wipe again with a dry cloth.

## 5. Mechanism Adjustment

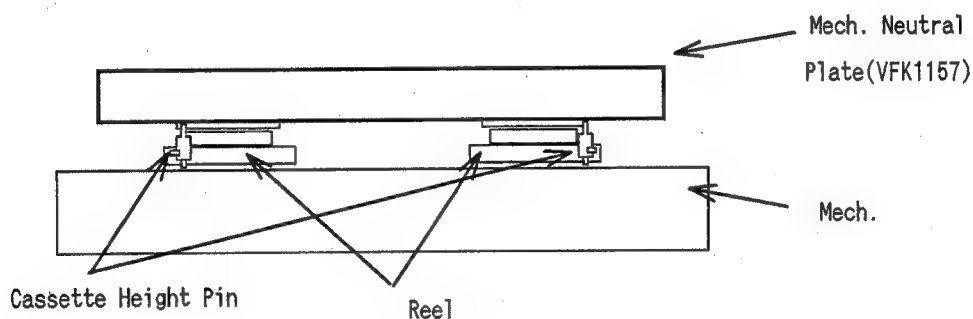
### 5-1. Name of tape transportation



## 5-2. Cassette Height Position Pin Adjustment

Specification	No Space between mech. neutral plate and cassette height position pin
Mode	EJECT
Test Point	The space between mech. neutral plate and cassette height position pin
Equipment and tool	VFK1157 (Mech. Neutral Plate) VFK1179 (Hex Driver 0.71 mm)
Adjustment	Hex Screw of the cassette height position pin

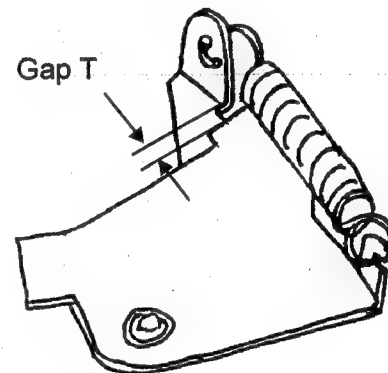
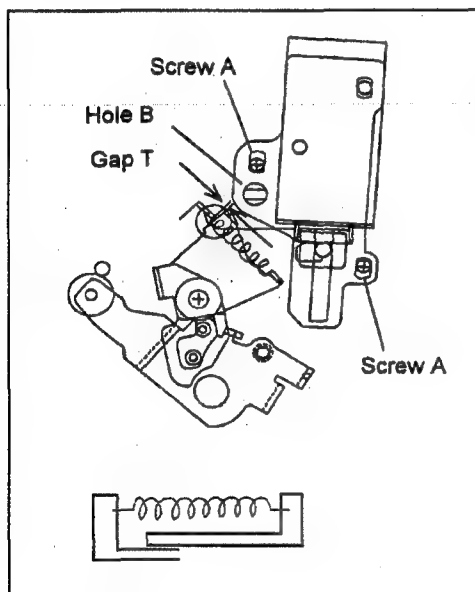
1. Confirm the Reel Table is located at M cassette position. If it is located at L or S cassette position, turns power on and insert M cassette and eject the M cassette.
2. Turns power off. Remove the front loading unit. Place the Mech. Neutral Plate (VFK1157) on the Reel Table.
3. There is no space between mech. neutral plate and cassette height position pin
4. If there is a space between them, melt the grew of the hex screw of the cassette height pin and loosen the hex screw. Then the cassette height pin is raised by its spring and touch the mech. neutral plate. Tighten the hex screw in this condition and grew the hex screw.
5. Adjust both S and T Reel Tables.



### 5-3. Pinch Solenoid Position Adjustment

Specification	T = 0.3 mm
Mode	EJECT
Test Point	Gap T
Equipment and tool	VFK0357
Adjustment	Hole B

1. Turns power off. and close the pinch roller to the capstan shaft by hand.
2. Press the pinch solenoid by your hand so that the pinch roller is engaged to the capstan shaft.
3. Loosen the screw A and adjust Hole B by VFK0357 so that the gap "T" portion is in the specification.
4. Tighten the screw A after adjustment.



#### 5-4. Main Brake Torque Confirmation

Specification	Tighten Direction more than 80 gcm Loosen Direction more than 15 gcm
Mode	
Test Point	Reel Table
Equipment and tool	VFK71 (150 g torque meter) VFK1191 (45 g torque meter) VFK1152 (Adapter)
Adjustment	

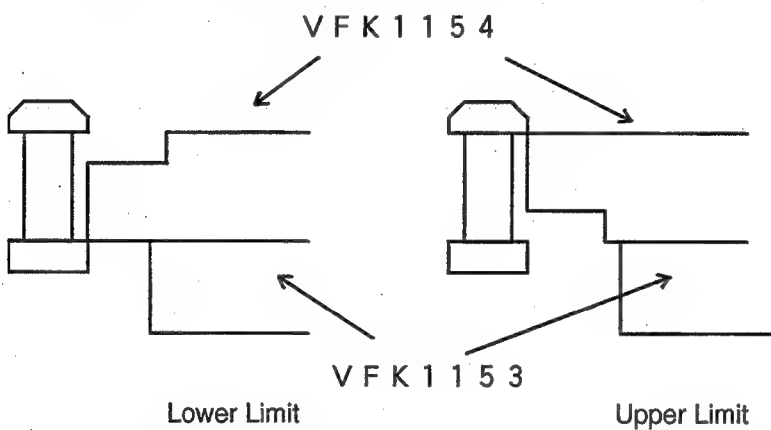
1. Remove the front loading unit.
2. Attach the Adapter (VFK1152) with the torque meter and attach the torque meter with the reel.  
Then rotate the torque meter and read the value when the brake is release and the reel starts rotation both CW and CCW direction for both reel tables.

### 5-5. Post Height Pre-Adjustment

Name	Limit	Post Driver	
S4 Post	* Lower	VFK1149	
S5 Post	* Lower	VFK1149	
T3 Post	Lower	VFK1151 (2.5 mm Nut Box )	
T4 Post	Lower	VFK1151 (2.5 mm Nut Box )	

**\* :Turn S4 and S5 posts 1 round more counter clockwise from Lower Limit position.**

Tool	VFK1153 (Mech. Plate), VFK1154 (Flange Tool ) VFK1149, VFK1151
Mode	EJECT (Power OFF )



1. Confirm the Reel Table is located at M cassette position. If it is located at L or S cassette position, turns power on and insert M cassette and eject the M cassette.
2. Turns power off. Remove the front loading unit. Place the Mech. Plate (VFK1153) on the Reel Table.
3. Place the flange tool (VFK1154) as shown in the figure and adjust the post height.
4. Adjust the S4 and S5 post height by VFK1149 and adjust T3 and T4 by VFK1151.

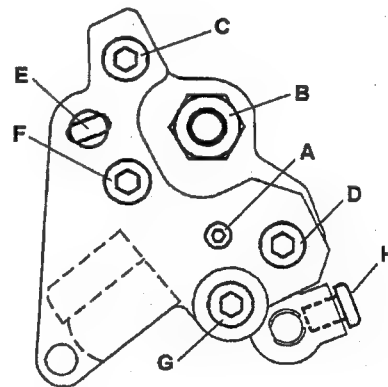
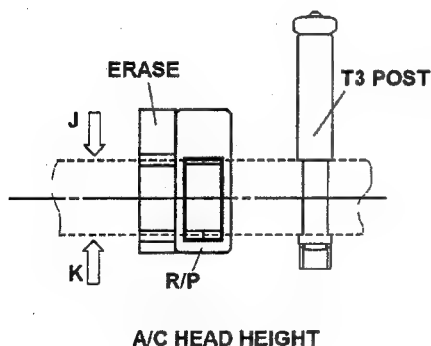


### 5-6. A/C Head Height Pre Adjustment

Name of Adjustment	Screw	Adjustment	Tool
A/C Head Tilt	A	Screw A is not loosen.	VFK1178 (0.89 mm)
A/C Head Height	B	Adjust the height so that Cue R/P head is located at lower limit of the T3 post.	VFK1150 (5.5 mm)
A/C Head Horizontal Position	C D	Adjust the hole E, and slightly tighten the screw.	VFK1148 (1.5 mm)
	E	Adjust E at center position.	VFK0357
A/C Head Azimuth	F	Adjust the A/C head straight.	VFK1148 (1.5 mm)
A/C Head screws	G	Tighten the screw.	VFK1148 (1.5 mm)
	H	Adjust the height by screw B and slightly tighten it.	VFK1190

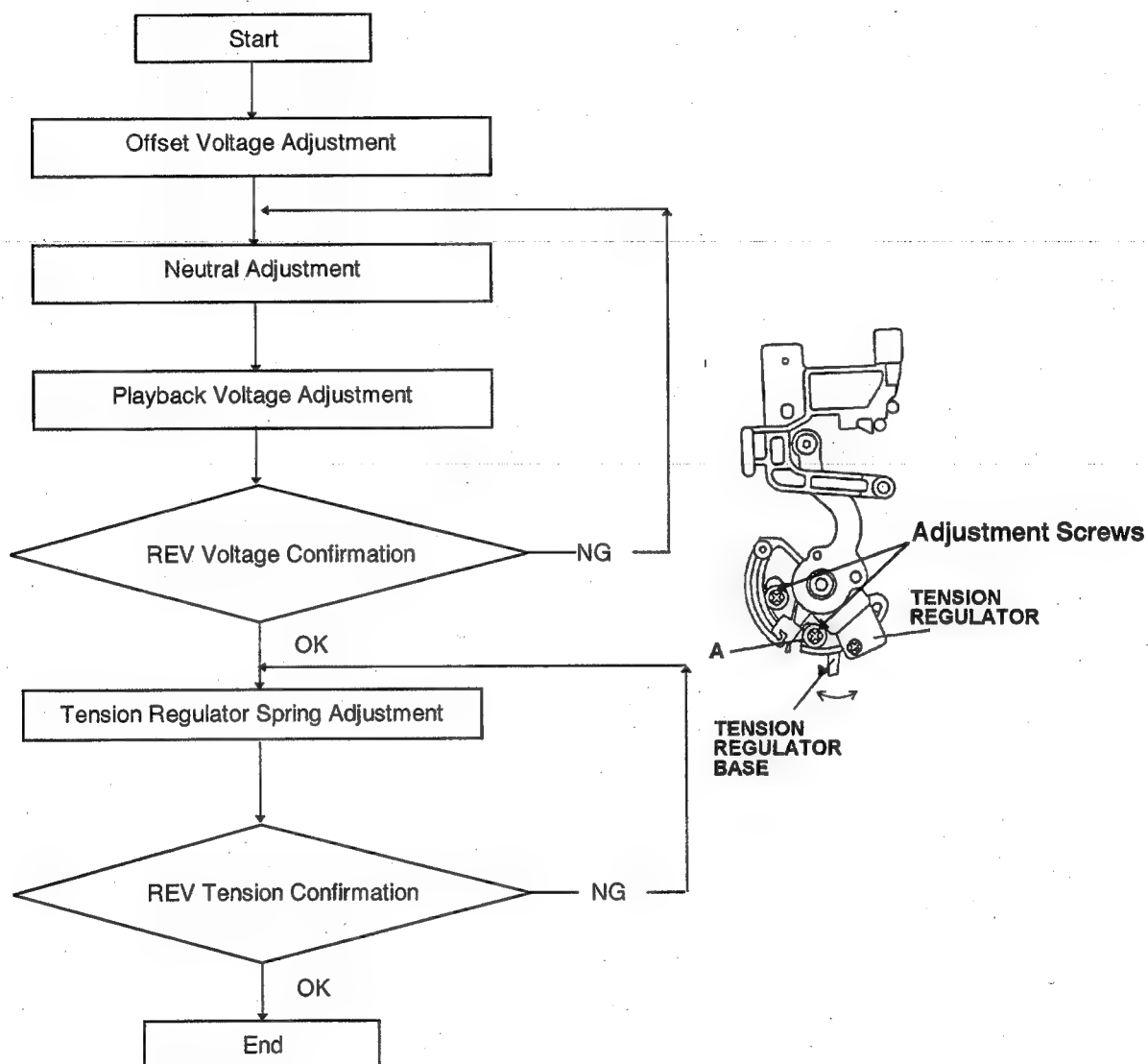
Torque of the each screw	C, D	2.5 kg cm
	G	1.0 kg cm

1. A/C Head Tilt Pre Adjustment  
Confirm the screw A is tightened with the A/C head connection plate and it is not loosen.
2. A/C Head Pre Horizontal Position Adjustment  
Loosen the screw C and D and adjust the hole E so that the position is at center and slightly tighten the screw C and D.
3. A/C Head Pre Height Adjustment  
Adjust the A/C Head Height so that the Cue R/P head is located at the lower limit of the T3 post.
4. A/C Head Pre Azimuth Adjustment  
Adjust the A/C Head Azimuth is parallel to the T3 post flange.
5. A/C head screws  
Tighten the each screw according with the upper table and confirm the each adjustment again.



## 5-7. Tension Arm Adjustment Procedures

When this adjustment is done, melt the grew of the adjustment screws.

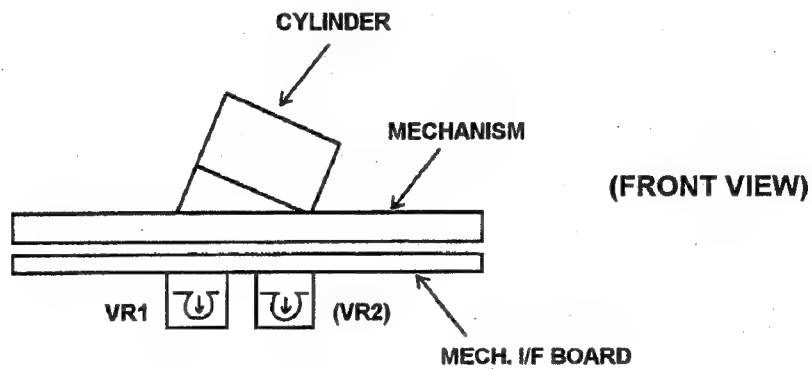


### 5-8. Tension Arm Offset Voltage Adjustment

Specification	$2.5 \pm 0.05(V)$
Mode	EJECT
Test Point	TP201(Servo board : F1)
Equipment	Digital Volt meter
Adjustment	VR1( Mech. I/F board: bottom of Mechanism )

Remove the Front Panel (Refer to item 2-3).

Adjust VR1 so that the DC voltage at TP201 is in the specification in EJECT mode



## 5-9. Tension Arm Neutral Position Adjustment

Specification	2.5 V $\pm$ 0.1 V
Mode	STOP
Test Point	TP201 (Servo board : F1)
Equipment	Digital Volt meter or Oscilloscope
Adjustment	Tension Regulator Board Position
Tool	VFK1208 (Tension Arm Tool: neutral, black, with hole)

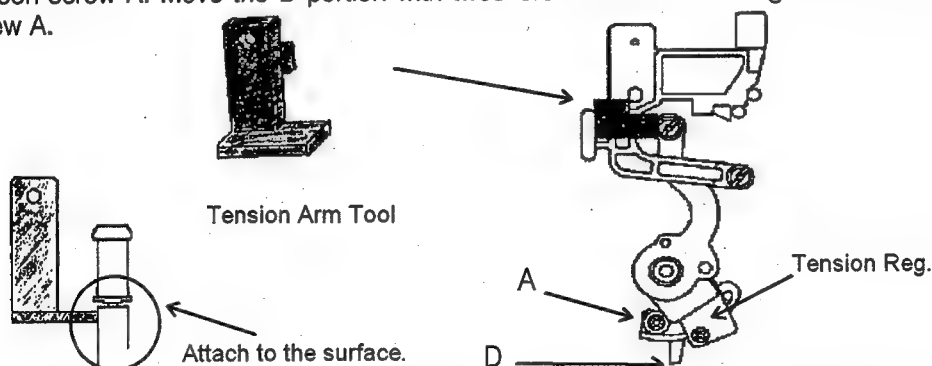
1. Unscrew the 4 screws and remove the Top Plate on the front loading unit.
2. Set the VFK1208.
3. Place the unit into the no tape loading mode (Refer to No tape loading procedure described as below).
4. [Connect the Digital Volt meter to TP201 on F1 board] then move the tension regulator board so that the voltage at TP201 is in the specification.
5. After adjustment, press the MENU button surely to escape from SERVICE-MENU before Power OFF.

● [ No tape loading procedures are as follows. ]

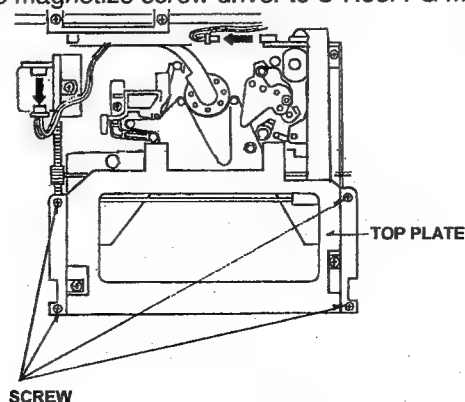
- ① Press the MENU button. (SET UP-MENU is displayed on the VIDEO OUT 3.)
- ② Pressing the EJECT button and the STOP button simultaneously, press the MENU button. (SERVICE-MENU is displayed.)
- ③ Press the cursor buttons (▲, ▼) so that the cursor (\*) is at A00:SERVO ADJUST.
- ④ Press the SET button.
- ⑤ Press the cursor button (▲, ▼) so that the cursor (\*) is at A02:T TORQUE.
- ⑥ Press the STOP button. During adjustment, hold the STOP button.

● [The tension regulator board adjustment procedures are as follows.]

Loosen screw A. Move the D portion with tweezers which are not magnetized. Then tighten the screw A.



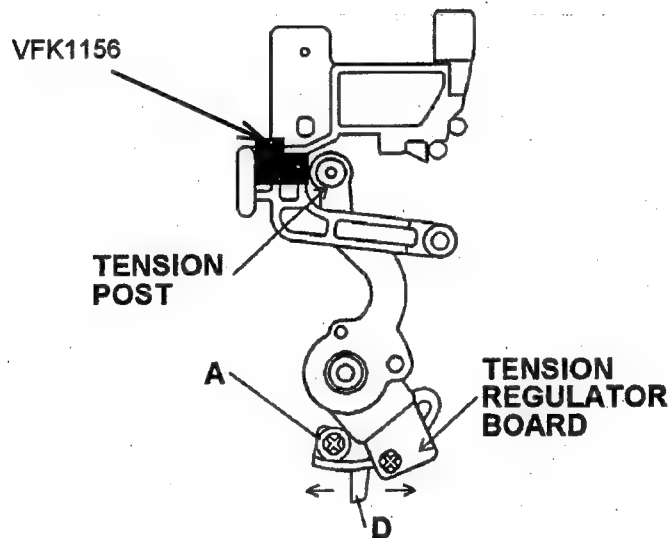
**CAUTION:** Don't touch the magnetize screw driver to S-Reel FG magnet portion, when the "D" portion is adjusting.



### 5-10. Tension Arm PLAY Voltage Adjustment

Specification	$3.8 \pm 0.05(V)$
Mode	STOP
Test Point	TP201 (Servo board : F1)
Equipment	Digital Volt meter
Adjustment	VR2 (Mech. I/F board : bottom of Mechanism)
Tool	VFK1156

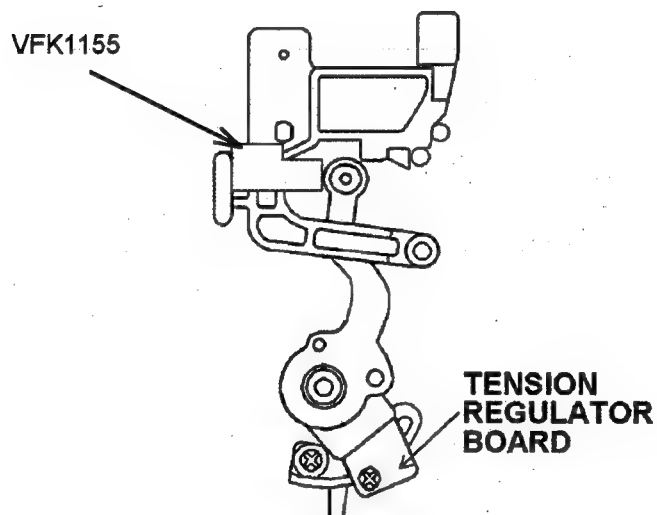
1. Set the VFK1156 at the specified position. (Tension Arm Tool : Play, Black color )
2. Place into loading mode without a tape.
3. Adjust VR2 so that the Specification of TP201 in STOP mode is in the specification.



### 5-11. Tension Arm REV Voltage Confirmation

Specification	1.2±0.3(V)
Mode	STOP
Test Point	TP201 (Servo board : F1)
Equipment	Digital Volt meter
Adjustment	_____
Tool	VFK1155 (Tension Arm Tool : REV, White )

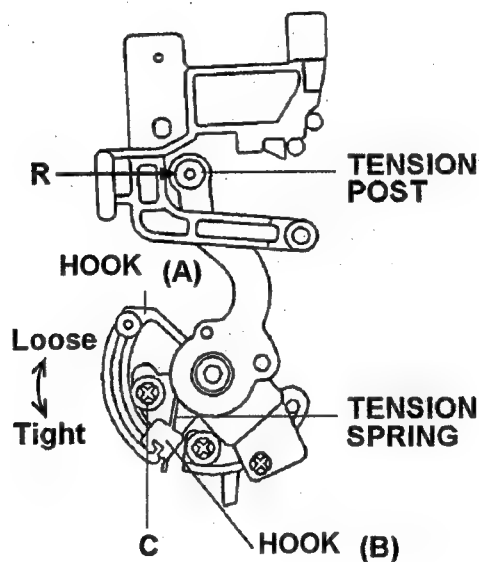
1. Set VFK1155 (Tension Arm Tool : REV, White ) to the specified position.
2. Place the VTR into the no tape loading.
3. Confirm the voltage at TP201 is in the specification in STOP mode.
4. If it is out of specification, adjust "5-9. Tension Arm Neutral Position Adjustment".



## 5-12. Tension Arm Tension Regulator Spring Adjustment

Specification	11±1(gf)
Mode	STOP
Test Point	TP201 (Servo board : F1)
Equipment	Digital Volt meter
Adjustment	Tension Regulator Spring Hook (B) Position
Tool	VFK1188(30g Dial Tension Gauge)

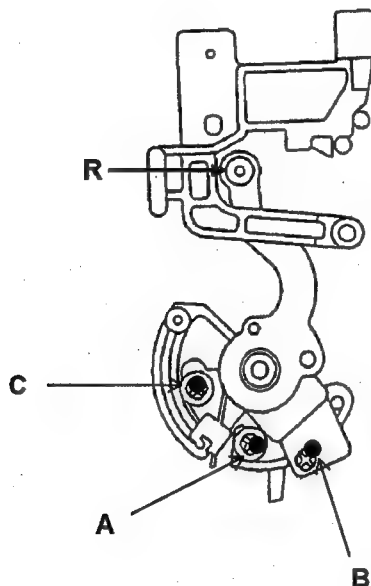
1. Place the VTR into no tape loading.
2. Press the post at the R position by Dial Tension Gauge until the voltage at TP201 is 3.8 V (Play position).
3. Adjust Tension Regulator Spring Hook (B) so that the tension is in the specification.  
Adjust the Tension Regulator Hook (B) position as follows.
  - Loosen screw C.
  - Adjust the position.
  - Tighten screw C.



### 5-13. REV Tension Confirmation

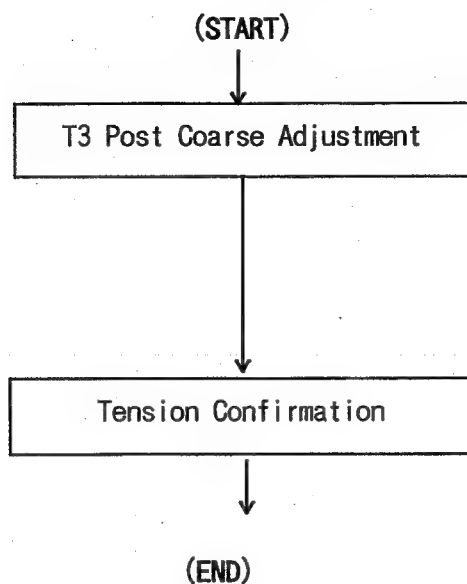
Specification	REV Tension : $18\pm 2$ (g)
Mode	STOP
Test Point	TP201(Servo board : F1)
Equipment	Digital Volt meter
Adjustment	_____
Tool	VFK1188(30g Dial Tension Gauge)

1. Place the VTR into no tape loading.
2. Press the post at the R position by Dial Tension Gauge until the voltage at TP201 is 1.2 V (REV position).
3. Confirm the tension is in the specification. If it is not, adjust Tension Regulator Adjustment again.
4. Grew the screw A, B and C after Tension Arm adjustment. The grew quantity at B is half of A and C.





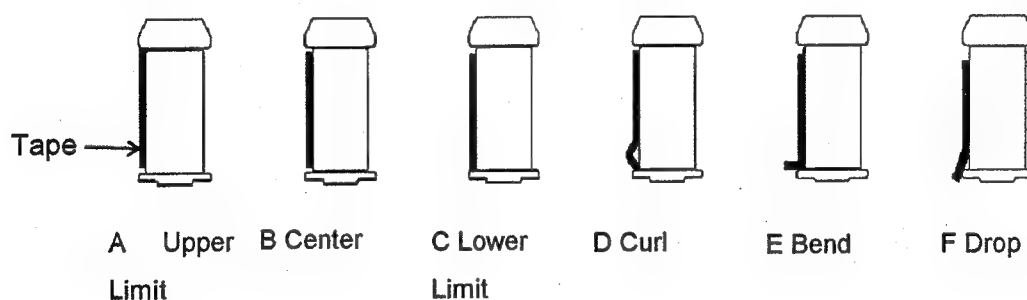
## 5-14. Tension Confirmation Procedures



## 5-15. T3 Post Coarse Adjustment

Specification	A, B, C shows good condition, D, E, F shows bad condition.
Mode	PLAY
Adjustment	T3 Post Height
Tool	VFK1151 ( Box Driver 2.5 mm)
Tape	Working Tape (This adjustment may damage the tape.)

Place the unit into PLAY mode and adjust T3 Post height so that the tape runs without any tape damage.

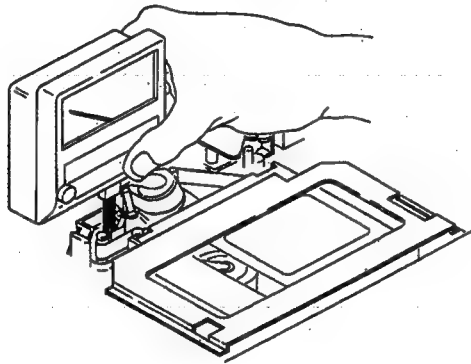


### 5-16. Play Mode Tension Confirmation

Specification	$6 \pm 1$ g PLAY
Tool	VFK1145 (Back Tension Meter)

1. Playback the beginning part of the 63 min Tape.
2. Insert the back tension meter between S3 and S4 post (Tension arm).
3. Confirm the tension is in the specification.

**NOTE:** Be careful not to give some tape damage.

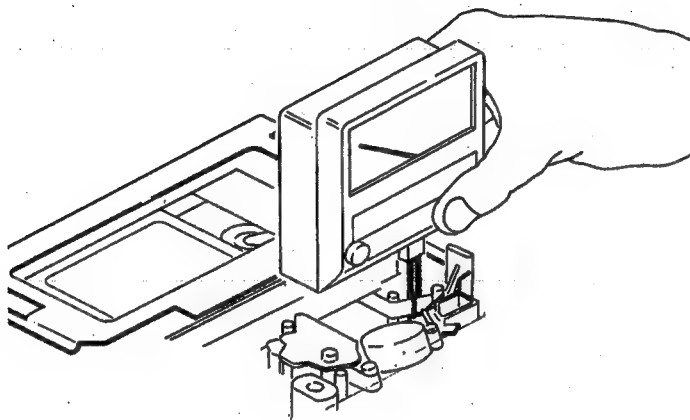


### 5-17. Reverse Tension Confirmation

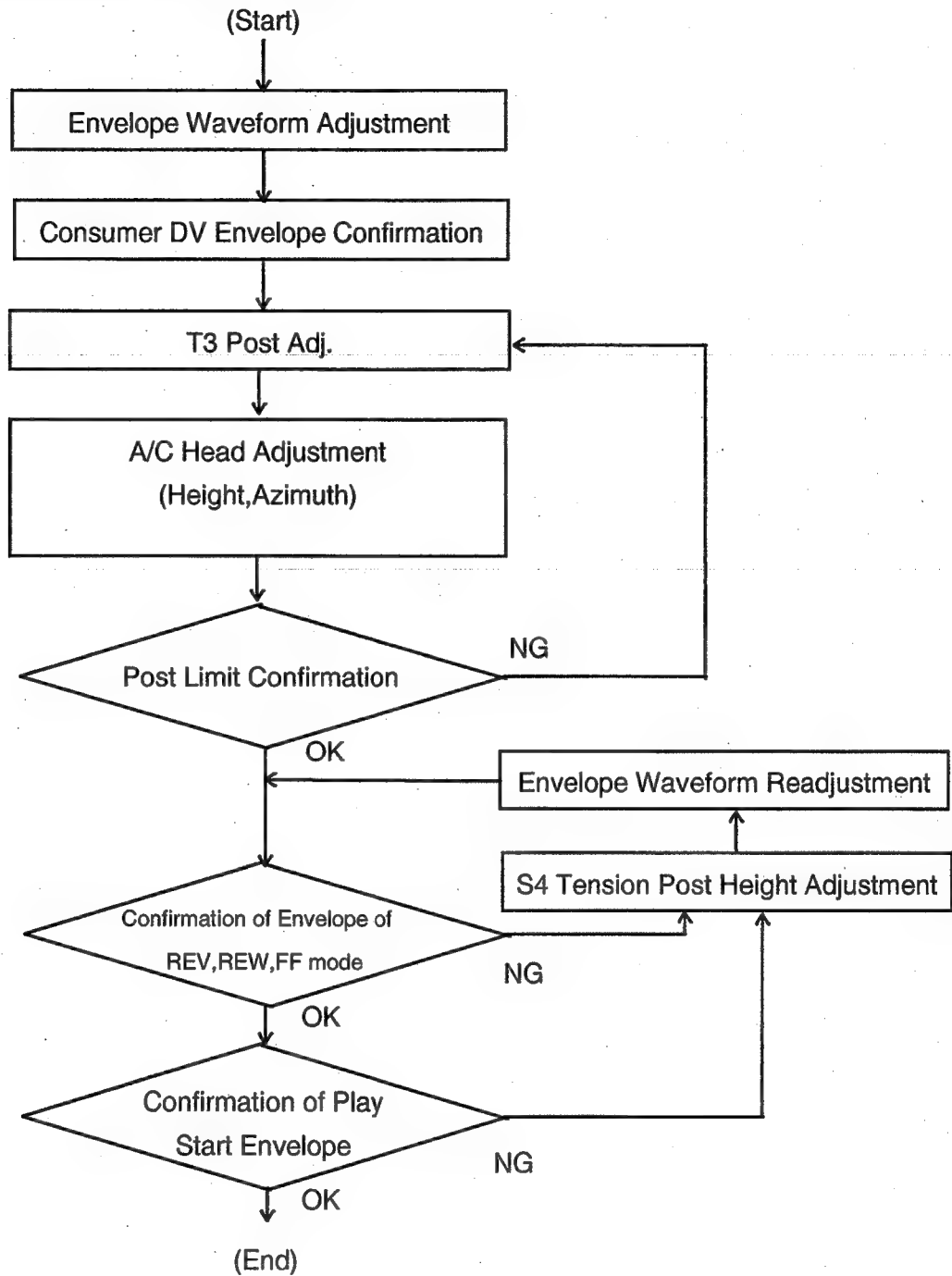
Specification	9±2g REV(X1)
Tool	VFK1145 (Back Tension Meter)

1. Set the 63 min Tape and place the unit into Reverse mode.
2. Insert the back tension meter between S5 and S4 post (Tension arm).
3. Confirm the tension is in the specification.

**NOTE:** Be careful not to give some tape damage.



## 5-18. Tape Pass Adjustment Procedures



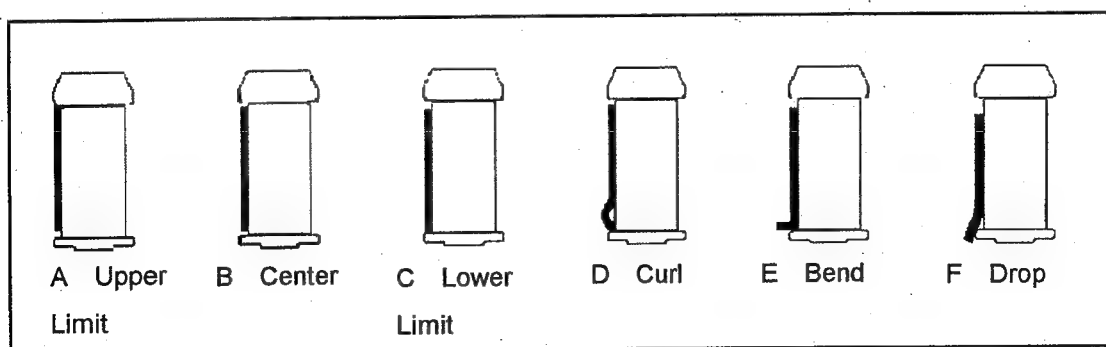
### 5-19. Tape Pass Adjustment (COARSE) and Tape Pass Limit Confirmation

Specification	Confirm the each post limitation is as shown in the table.
Mode	PLAY
Adjustment	A/C Head Screw
Tool	VFK1149 (Post Driver) VFK1150 (Box Driver 5.5mm) VFK1151 (Box Driver 2.5mm) VFK1178 (0.89mm) . . . Screw A VFK1148 (1.5mm) . . . Screw G
Tape	NTSC: VFM3580KM (Alignment Tape No.1 Color Bar Portion) PAL: VFM3680KM (Alignment Tape No.1 Color Bar Portion)

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	×	○	○	×	×	×	S5 Post	
S4 Tension Post	×	×	○	×	×	×	Tension Post Height	
S1 Post	○	×	×	×	×	×	Envelope Adjustment	
T1 Post	○	×	×	×	×	×		
A/C Head							CTL Adjustment	
T3 Post	×	×	○	×	×	×	T3 Post Height	
T4 Post	×	○	○	×	×	×	T4 Post Height	

○ means acceptable.      × means not acceptable.

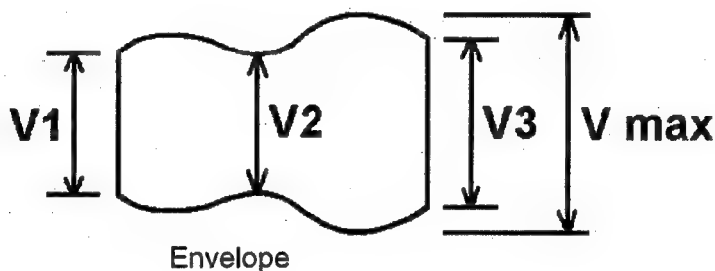
1. Place unit into PLAY mode, and adjust the height of each post do not to occurred tape damage.
2. Regarding the S1 Post, T1 Post and A/C Head adjustment, refer to item "Envelope Waveform Adjustment" and "A/C Head Azimuth Adjustment".
3. Confirm the tape pass limit of each post as below figure.



## 5-20. Envelope Waveform Adjustment

Specification	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
Mode	ATF Control PLAY mode
Test Point	TP16: R/P envelope(RF Board:H4) TP1: TRIG.(RF Board:H4)
Equipment	Oscilloscope
Adjustment	S1, T1 Post Height
Tool	VFK1149 (Post Driver)
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion)

1. Playback the color bar portion of the alignment tape.
2. Adjust S1 and T1 post height so that the R/P envelope output is in the specification.
3. When the S1 and T1 posts are adjusted, first raise the post height and make small the entrance and exit side of the envelope, then down the post until envelope becomes flat.
4. Adjust T1 post and makes exit side of the envelope flat then adjust S1 post.
5. After the adjustment, unload the tape then loading the tape. Confirm the waveform style.



## 5-21. Consumer DV Envelope Confirmation

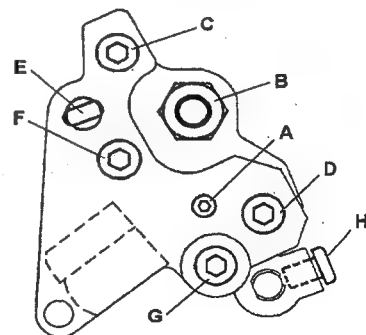
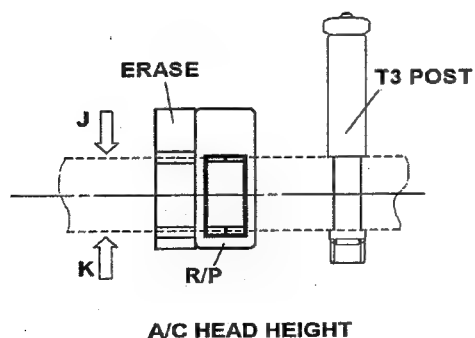
Specification	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
Mode	ATF Control PLAY mode
Test Point	TP16: R/P envelope(RF Board:H4) TP1: TRIG.(RF Board:H4)
Equipment	Oscilloscope
Adjustment	S1, T1 Post Height
Tool	VFK1149 (Post Driver)
Tape	<b>NTSC:</b> VFM3010EDS (Consumer DV Color Bar) <b>PAL:</b> VFM3110EDS (Consumer DV Color Bar)

1. Playback the alignment tape VFM3010EDS and confirm the envelop is in the specification.
2. If it is not, adjust the previous item again.

## 5-22. A/C Head Adjustment method

Adjustment Item	Screw	Adjustment Method
A/C Head Tilt Adjustment	A VFK1178	Tighten direction — Decrease CUE Loosen direction — Increase CUE
A/C Head Height	B VFK1150	Tighten direction — Output increase when tape is up (arrow k) Loosen direction — Output increase when tape is down (arrow j)
Azimuth	F VFK1148	Phase is adjusted by screw F.
A/C Head Horizontal Position (Torque 2.5kg.cm)	C D VFK1209 VFK0912	Adjust X value by VFK0357 (Eccentric screwdriver) at long hole. Then tighten the screw C and D to fix the A/C head horizontal position.
A/C Head Tilt (Torque 1kg.cm)	G Same C and D	Screw G — Always be tighten during adjustment.
A/C Head Fix	H VFK1190	Screw H — After height adjustment, tighten the screw H to fix the A/C head height.

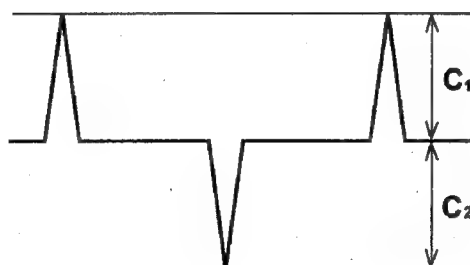
1. Always the screw G must be tightened while each adjustments is done.
2. After the A/C head tilt adjustment, confirm the screw A is not loosen. (The screw A must be touch with the A/C head set plate.)
3. After the A/C head tilt adjustment, confirm the tape damage at T3 post.
4. When A/C head height is adjusted, loosen the screw H to start, and after adjustment completion, tighten screw B.
5. Each adjustment must be completed with tightening the screw.
6. Each adjustment must be alternately adjusted or confirmed with the envelope exit side adjustment.



## 5-23. A/C Head Height Adjustment

Specification	CTL Output : $C_1, C_2 \geq 1.8(V)$
Mode	PLAY
Test Point	TP30 : CTL Output (Servo board : F1)
Equipment	Oscilloscope
Adjustment	A/C Head Screw B, H
Tool	VFK1150 (Box driver), VFK1190 (Hex)
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion) * Dubbing tape is recommendable

1. Connect the scope to TP30 on the Servo board, and adjust the A/C head height so that the CTL output level is in the specification.
2. To adjust the height, loosen the screw H and adjust by nut B.
3. When A/C head height is changed, the Azimuth is changed also, so adjust A/C head height and A/C azimuth adjustment alternately.
4. When the screw H is tighten, the A/C head tilt is changed, so the confirmation must be done after tightening the screw H.

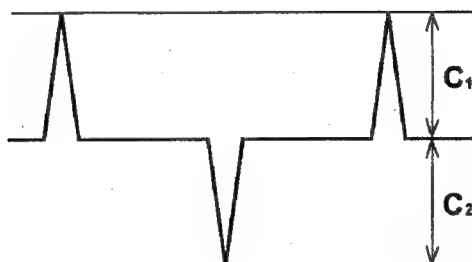




## 5-24. A/C Head Azimuth Adjustment

Specification	CTL Output : C1、C2 = C1 max、C2 max
Mode	PLAY
Test Point	TP30 : CTL Output (Servo board : F1)
Equipment	Oscilloscope
Adjustment	A/C Head Screw F
Tool	VFK1148 (Box driver)
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM(Alignment Tape No.1 Color Bar Portion) * Dubbing tape is recommendable

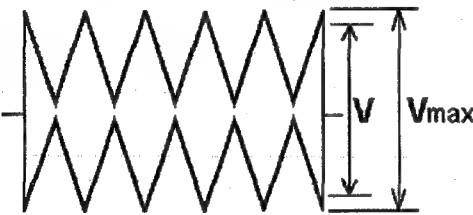
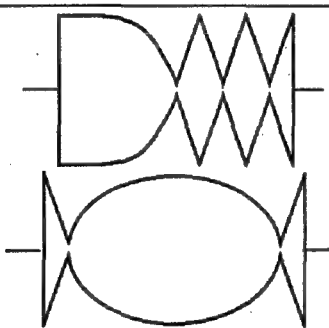
1. Connect the scope to TP30 on the Servo board (F1) and adjust the Screw F so that the CTL Output becomes maximum.
2. When the A/C Head Azimuth is changed, the A/C Head Height is changed also, so adjust A/C head height and A/C azimuth adjustment alternately.



## 5-25. Confirmation of Envelope of REV, REW, FF mode

Specification	Refer to the following figure.
Mode	REV , REW and FF
Test Point	TP16:R/P Envelope (RF board : H4)
Equipment	Oscilloscope
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM(Alignment Tape No.1 Color Bar Portion)

Envelope waveform confirmation

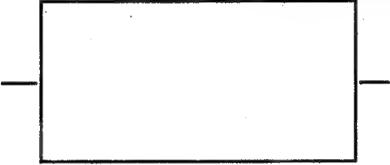

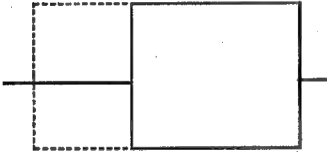
Mode: REV , REW and FF	Evaluation
	<p>OK</p> <ul style="list-style-type: none"> <li>•Waveform must be diamond style.</li> <li>•All The peak must be more than 90% of the maximum level.</li> </ul> <p><math>V/V_{max} \geq 0.9</math></p>
	<p>NG</p>

1. Connect the scope to TP16 and confirm the envelope style is in the specification in REV, REW and FF mode.
2. If it is out of specification , adjust S4 Post(Tension Post) Height again.

## 5-26. Confirmation of PLAY Start Envelope

Specification	In the Play mode envelope become flat momentarily.
Mode	FF → PLAY REV and REW → PLAY Loading Completion → PLAY
Test Point	TP16 : R/P Envelope (RF Board : H4)
Equipment	Oscilloscope
Tape	Recorded L Cassette (123min.) Tape Begin

### Envelope Confirmation

PLAY Start	Evaluation
	<b>OK</b> (Envelope becomes flat momentarily)
 	<b>NG</b>

1. Observe the envelope by oscilloscope and confirm the envelope is in the specification in the transition from FF to PLAY, from REW to PLAY, from REV to PLAY and from Loading completion to PLAY.
2. If it is not adjust S4 Post Height (ITEM 5-27).
3. This adjustment must be done after Envelope Waveform Adjustment.

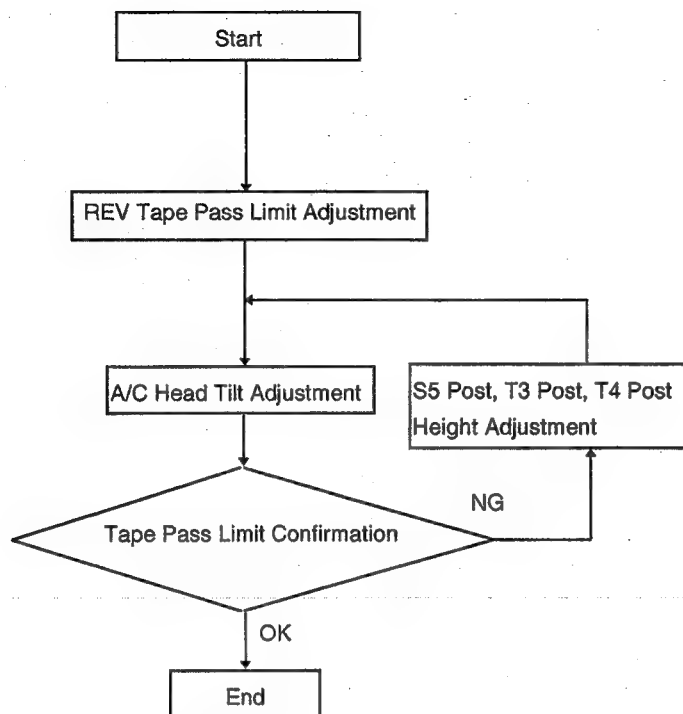
## 5-27. S4 Tension Post Height Adjustment

Specification	Envelope becomes flat momentarily at PLAY start.
Mode	PLAY
Adjustment	Tension Post (S4 Post) S1 and T1 Post
Equipment	Oscilloscope
Tool	VFK1149 (Post Driver)
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM(Alignment Tape No.1 Color Bar Portion)

※ This adjustment should be done when the 5-20 "Envelope Waveform Adjustment", 5-25 "Confirmation of Envelope of REV, REW, FF mode" or 5-26 "Confirmation of Play Start Envelope" can not be achieved the specification.

1. Rotate the S4 tension post height 90 degrees CCW (counterclockwise).
2. Adjust S1 and T1 post height again. Refer to the 5-20 "Envelope Waveform Adjustment".
3. Confirm the Play Start envelope waveform (Item 5-26).
4. If it is not in the specification, repeat item 1 to 3. The maximum rotation angle is 360 degrees.
5. Even the height is out of specification, confirm 5-5 "Post Height Pre Adjustment".

## 5-28. Tape Limitation Confirmation Procedures



The Tape Pass Limit Confirmation must be done with MP Tape (M cassette) and ME Tape (S cassette).

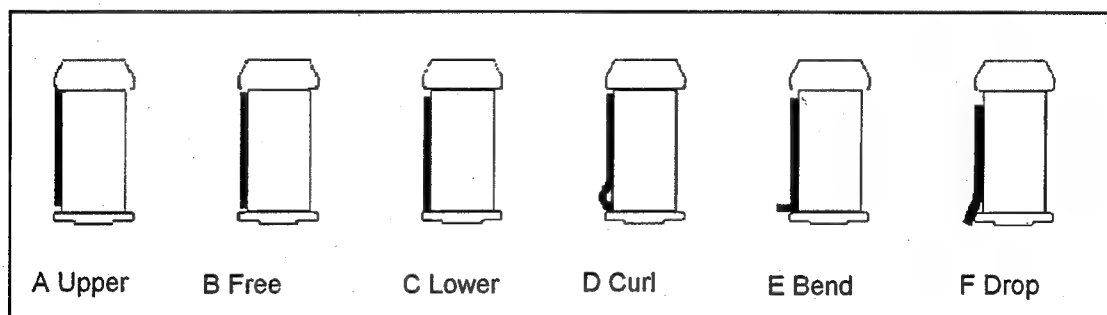
## 5-29. REV Tape Pass Limit Adjustment

Specification	Confirm the each post limitation is as shown in the table.
Mode	REV
Tool	VFK1149(Post Driver) VFK1151(Box Driver 2.5mm) VFK1178(0.89mm)···Screw A VFK1148(1.5mm)···Screw G
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion)

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	○	○	○	X	X	X	S5 Post	
S4 Tension Post	X	○	○	X	X	X	Tension Post Height	
S1 Post	○	X	X	X	X	X	(Envelope Adjustment)	
T1 Post	○	○	○	X	X	X		
T3 Post	X	X	○	X	X	X	T3 Post Height	
T4 Post	X	X	○	X	X	X	T4 Post Height	

○ means acceptable. X means not acceptable.

1. Place unit into REV mode, and adjust T4 so that the Lower limit touch the tape.
2. Confirm the T4 post is at lower limit, then adjust T3 post is at lower limit.
3. Confirm the tape pass limit of each post.
4. These adjustment must be done after envelope waveform adjustment.

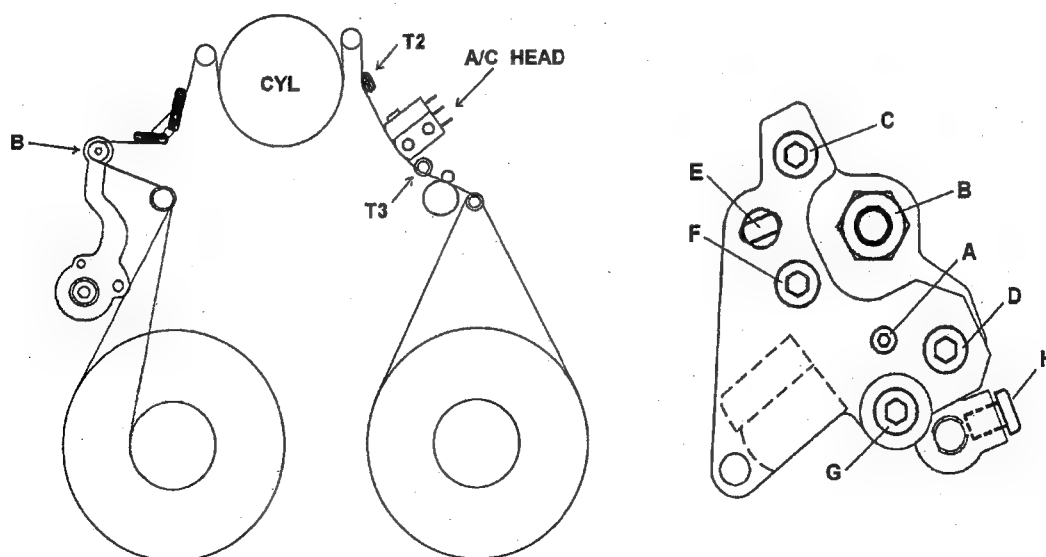


### 5-30. A/C Head Tilt Adjustment

Specification	T3 post must be lower limit in PLAY mode. No tape damage and no tape curling
Mode	PLAY
Adjustment	A/C Head screw A, G
Tool	VFK1178 (0.89 mm) — Screw A VFK1148 (1.5 mm) — Screw G
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion)

Adjustment Item	Screw	Adjustment Method
A/C Head Tilt Adjustment	A	Tighten direction — Tape is up at T3 Post. Loosen direction --- Tape is down at T3 Post.
A/C Head Fix (Torque = 1.0 kg cm)	G	Keep tightening for each adjustment.

1. This adjustment must be done after "REV Tape Pass Limit Adjustment".
2. Place the VTR in PLAY mode, and confirm the T3 Post limit and adjust A/C head tilt is in the specification.
3. When complete the A/C head adjustment, final direction of screw rotation must be tighten direction.
4. Adjust alternately with each A/C head adjustment (Azimuth, Height ).



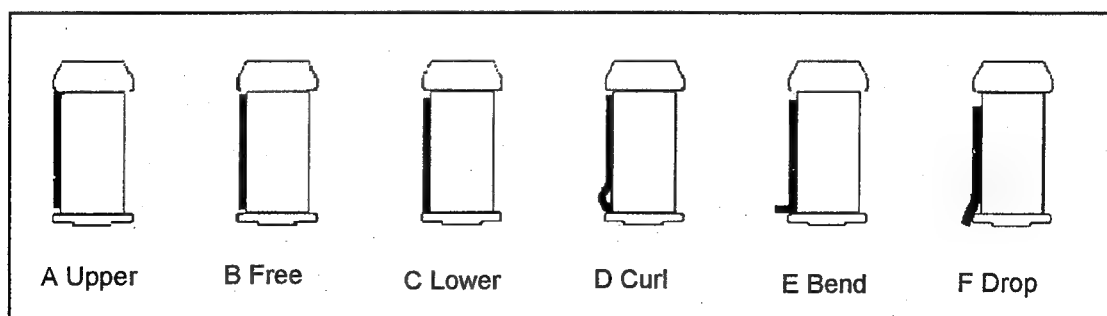
### 5-31. PLAY Tape Pass Limit Confirmation

Specification	Confirm the each post limitation is as shown in the table.
Mode	PLAY
Tool	VFK1149(Post Driver) VFK1151(Box Driver 2.5mm) VFK1178(0.89mm)···Screw A VFK1148(1.5mm)···Screw G
Tape	M Cassette (MP Tape) Tape Begin and Tape End S Cassette (ME Tape) Tape Begin and Tape End

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	X	○	○	X	X	X	S5 Post	
S4 Tension Post	X	X	○	X	X	X	Tension Post Height	
S1 Post	○	X	X	X	X	X	(Envelope Adjustment)	
T1 Post	○	X	X	X	X	X		
T3 Post	X	X	○	X	X	X	T3 Post Height A/C Head Tilt	
T4 Post	X	○	○	X	X	X	T4 Post Height	

○ means acceptable. X means not acceptable.

1. Place the unit into PLAY mode, and confirm the each post limit is in the specification as shown in the upper table.
2. This adjustment must be done after "Envelope Waveform Adjustment".
3. If it is out of specification, adjust each item again.
4. If A/C head tilt is out of specification adjust "A/C Head Tilt Adjustment".
5. Regarding T3 and T4 posts, confirm and adjust this confirmation alternately with "REV Tape Pass Limit Confirmation" and "Loading Tape Pass Limit Confirmation".
6. Confirm the tape pass limit for both M cassette and S cassette.





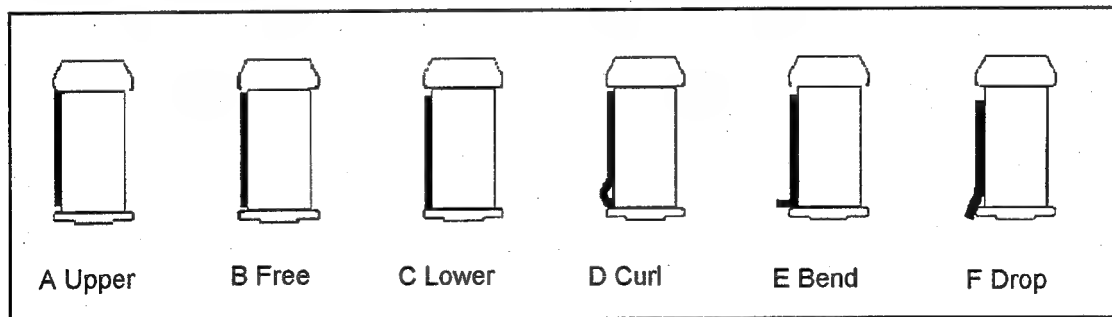
### 5-32. REV Tape Pass Limit Confirmation

Specification	Confirm the each post limitation is as shown in the table.
Mode	PLAY
Tool	VFK1149(Post Driver) VFK1151(Box Driver 2.5mm)
Tape	M Cassette (MP Tape) Tape Begin and Tape End S Cassette (ME Tape) Tape Begin and Tape End

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	○	○	○	X	X	X	S5 Post	
S4 Tension Post	X	○	○	X	X	X	Tension Post Height	
S1 Post	○	X	X	X	X	X	(Envelope Adjustment)	
T1 Post	○	○	○	X	X	X		
T3 Post	X	X	○	X	X	X	T3 Post Height	
T4 Post	X	X	○	X	X	X	T4 Post Height	

○ means acceptable. X means not acceptable.

1. Place the unit into REV mode, and confirm the each post limit is in the specification as shown in the upper table.
2. This adjustment must be done after "Envelope Waveform Adjustment".
3. If it is out of specification, adjust each item again.
4. This adjustment should be done alternately with PLAY Limit Adjustment.
5. If adjust T3 post, confirm "Loading Tape Pass Limit Confirmation".
6. Confirm the tape pass limit for both M cassette and S cassette.



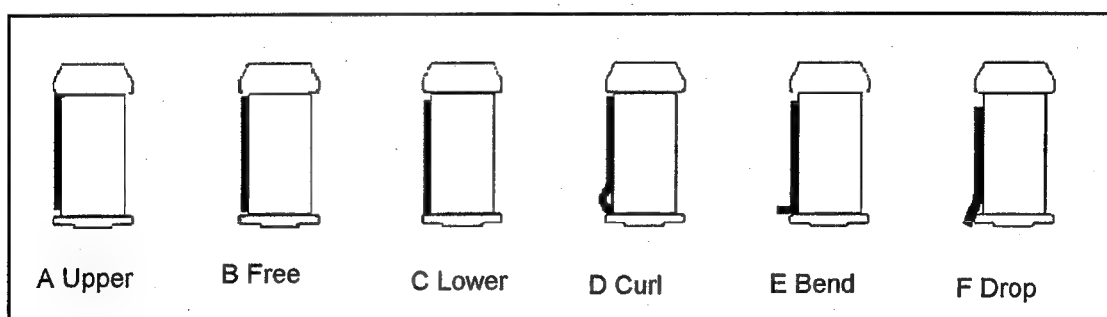
### 5-33. FF, REW Tape Pass Limit Confirmation

Specification	Confirm the each post limitation is as shown in the table.
Mode	FF, REW
Tool	VFK1149(Post Driver) VFK1151(Box Driver 2.5mm)
Tape	M Cassette (MP Tape) Tape Begin and Tape End S Cassette (ME Tape) Tape Begin and Tape End

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	○	○	○	X	X	X	S5 Post	
S4 Tension Post	X	○	○	X	X	X	Tension Post Height	
S1 Post	○	X	X	X	X	X	(Envelope Adjustment)	
T1 Post	○	○	○	X	X	X		
T3 Post	○	○	○	X	X	X	T3 Post Height	
T4 Post	X	○	○	X	X	X	T4 Post Height	

○ means acceptable. X means not acceptable.

1. Place the unit into FF and REW mode, and confirm the each post limit is in the specification as shown in the upper table.
2. This adjustment must be done after "Envelope Waveform Adjustment".
3. If it is out of specification, adjust each item again.
4. This adjustment should be done alternately with PLAY Limit Adjustment.
5. If adjust T3 post, confirm "Loading Tape Pass Limit Confirmation".
6. Confirm the tape pass limit for both M cassette and S cassette.



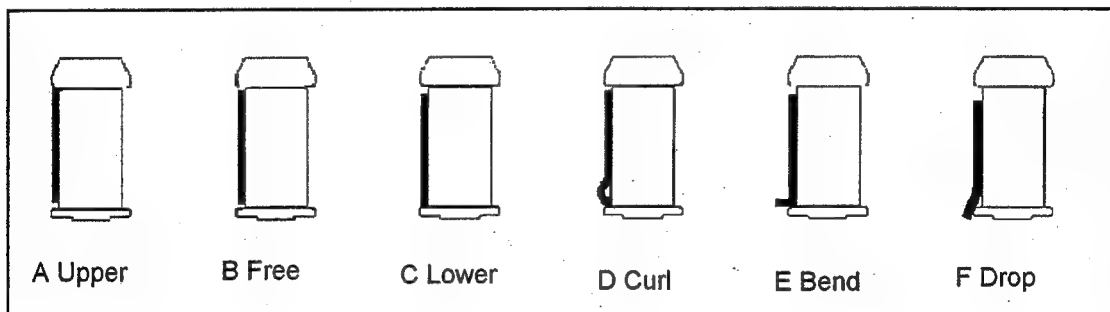
### 5-34. Loading Tape Pass Limit Confirmation

Specification	Confirm the T3 post limitation is as shown in the table.
Mode	LOADING / UNLOADING
Tool	VFK1151 (Box Driver 2.5mm)
Tape	M Cassette (MP Tape) Tape Begin and Tape End S Cassette (ME Tape) Tape Begin and Tape End

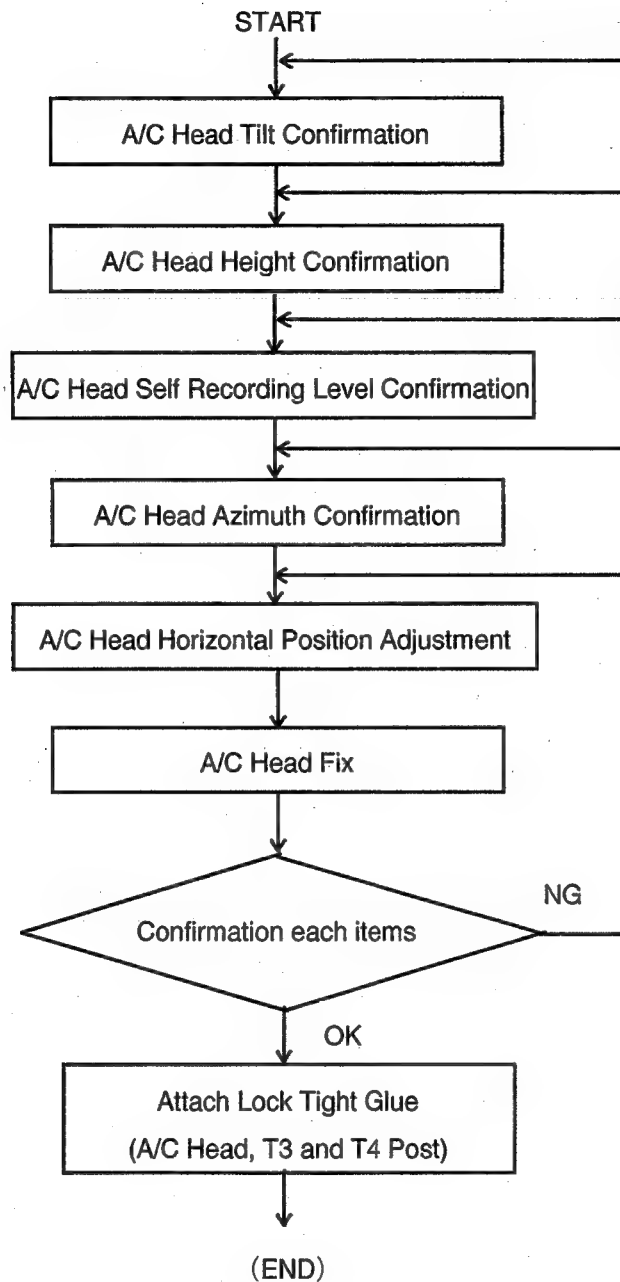
Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
T3 Post	○	○	○	X	X	X	T3 Post Height	

○ means acceptable. X means not acceptable.

1. Place unit into Loading condition, then confirm that the tape damage occurred or not at lower limit of T3 post and adjust the T3 post so that the post limit is within specification as shown in the upper table.
2. When confirm that the tape pass limit on the Loading condition as above item, practice alternately with "PLAY Tape Pass Limit Confirmation" and "REV Tape Pass Limit Confirmation" procedure.
3. If the T3 post is became too much lower limit at the timing of rising on Playback mode, down the height of T3 post a little and practice again the "PLAY Tape Pass Limit Confirmation", "REV Tape Pass Limit Confirmation" and "A/C Head Tilt Adjustment" procedure.
4. Confirm the tape pass limit for both M cassette and S cassette.



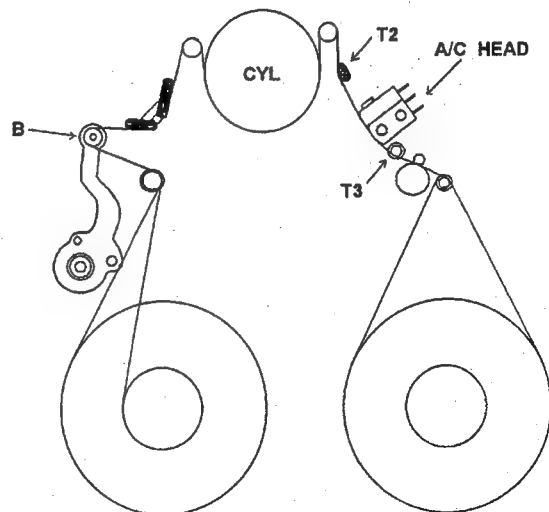
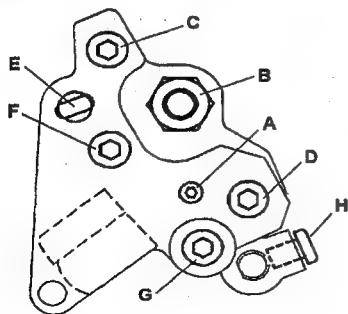
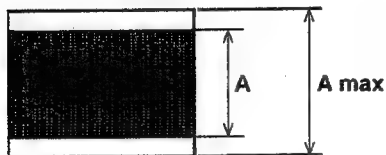
### 5-35. A/C Head Confirmation Procedures



### 5-36. A/C Head Tilt Confirmation

Specification	CUE Output : $A/A_{max} \geq 0.9$
Mode	PLAY
Test Point	TP4381 : ADDA CUE board (F8)
Equipment	Oscilloscope
Adjustment	A/C head Screw A, G
Tool	VFK1178 (Hex Screw 0.89 mm) for Screw A VFK1148 (Hex Screw 1.5 mm) for Screw G
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 14 min. ~ 22 min.) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 14 min. ~ 22 min.)

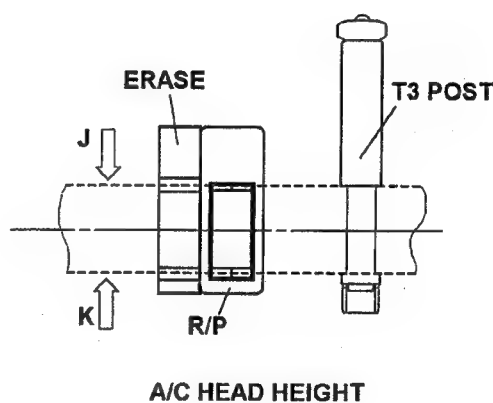
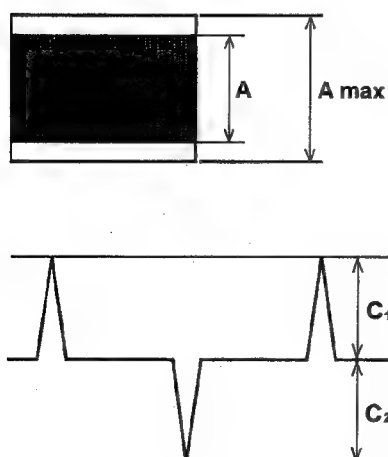
1. Playback the Alignment tape CUE 6 KHz part.
2. Confirm the screw G and H are not loosen. Then Connect the scope to TP4381 to observe the CUE output. Vibrate the tension arm to B direction, and confirm the output level variation is in the specification.
3. When complete the adjustment, final screw rotate direction must be tighten direction, and confirm the Screw A is not loosen.
4. When adjust the screw A, loosen screw G and adjust screw A, then tighten screw G.
5. The A/C Head Tilt adjustment effects the T3 post limitation, so adjust item "Play limitation confirmation" again.



### 5-37. A/C Head Height Confirmation

Specification	CUE Output : A = A max CTL Output : C1、C2 $\geq$ 1.8(V)
Mode	PLAY
Test Point	TP4381: ADDA CUE BOARD (F8) TP30 :Servo BOARD(F1)
Equipment	Oscilloscope
Adjustment	A/C head Screw B, H
Tool	VFK1150 (Box Driver 5.5 mm) for Screw B VFK1190 (L type Hex Screw 1.5 mm) for Screw H
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 14 min.~22 min.) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 14 min.~22 min.)

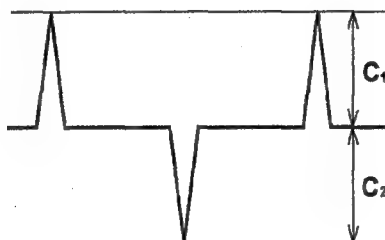
1. Playback the Alignment tape CUE 6 KHz part.
2. Connect the scope to TP4381 on ADDA CUE board and confirm the CUE output level is not increased even the tape is moved j and k arrow direction.
3. When A/C Head Height is changed, the A/C Head Azimuth is changed also, so adjust and confirm alternately A/C Head Azimuth and A/C Head height.
4. The A/C Head tilt is changed by tightening the screw H, so the confirmation of specification must be done after tightening the screw H.



### 5-38. A/C Head Self Recording Level Confirmation

Specification	CTL Output Level PLAY : C1, C2 $\geq$ 1.8 V REV (-1 x) : C1, C2 $\geq$ 1.4 V REV (-0.2 x) : C1, C2 $\geq$ 1.2 V
Mode	PLAY REV (-1x, -0.2 x)
Test Point	TP30: CTL Output (Servo board : F1)
Equipment	Oscilloscope
Tape	Work Tape for Rec and Play

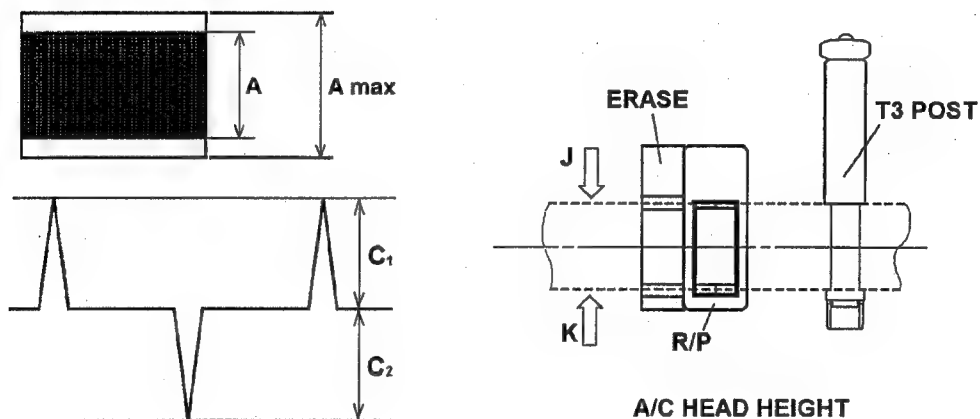
1. Record and Playback by a work tape.
2. Connect the scope to TP30 and confirm the CTL level is in the specification.
3. This confirmation should be done after the screws are fixed.
4. If it is not in the specification, adjust "A/C Head Height" again.



### 5-39. A/C Head Azimuth Confirmation

Specification	CUE Output : $A = A_{max}$ CTL Output : $C_1, C_2 \geq 1.8(V)$
Mode	PLAY
Test Point	TP4381: ADDA CUE BOARD (F8) TP30 :Servo BOARD(F1)
Equipment	Oscilloscope
Adjustment	_____
Tool	_____
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 14 min.~22 min.) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 14 min.~22 min.)

1. Playback the Alignment tape CUE 6 KHz part.
2. Connect the scope to TP4381 on ADDA CUE board and confirm the CUE output level is not increased even the tape is moved to j and k arrow direction.
3. If the output level is increased, adjust "Tape Pass Adjustment procedures" again.

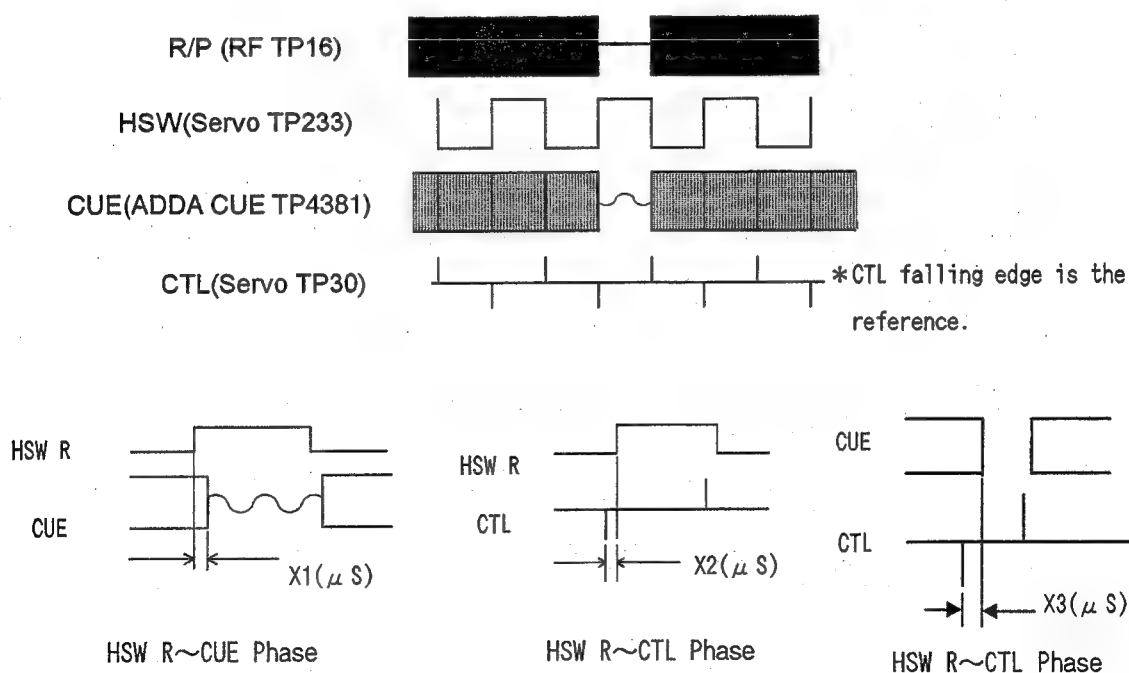




## 5-40. A/C Head Horizontal Position Adjustment

Specification	As shown in the below figure. $-250 \mu S \leq X1, X2, X3 \leq 250 \mu S$
Mode	ATF control, PLAY mode
Test Point	TP16 :R/P Envelope (RF board : H4) TP233 : HSW_R(Servo board :F1) TP4381: CUE Output(ADDA CUE board : F8) TP30 :CTL Output(Servo BOARD : F1)
Equipment	Oscilloscope
Adjustment	A/C Head each screws
Tool	VFK0357(Eccentric driver), Hex driver
Tape	<b>NTSC:</b> VFM3582KM (X Value Master Tape) <b>PAL:</b> VFM3682KM (X Value Master Tape)

1. Adjust A/C Head Azimuth so that the CTL and Lack part of CUE is match in the phase.
2. Confirm the R/P envelope lack track, and select the HSW correspond with it. ( The lack track is corresponded HSW High with L ch.)
3. Adjust CUE phase ( A/C Head Horizontal Position ) so that the selected HSW is match in the phase with the Lack part of CUE.
4. At this time, adjust the phase simultaneously with Azimuth so that the CTL and CUE phase is kept matching in the phase.
5. Confirm the selected HSW, CUE and CTL are match in phase.

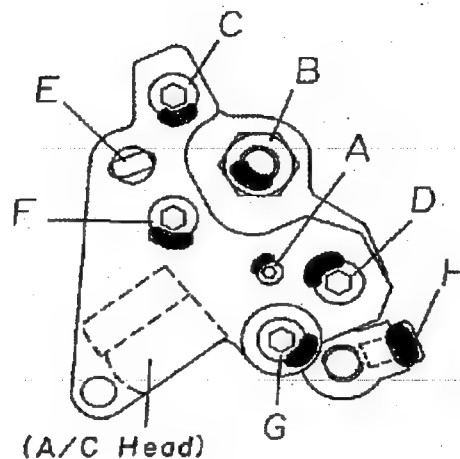


Note: If the waveform could not be stabilized by trigger (HSW or CTL) or the scope, please use the TP1100 (RFCF) on the V OUT P.C. board (F4) for trigger.

#### 5-41. A/C Head Screw Lock Tight Grew

	Screw A	Other Screw
Lock Tight Grew Quantity	1/3 of the screw	1/3 of the screw

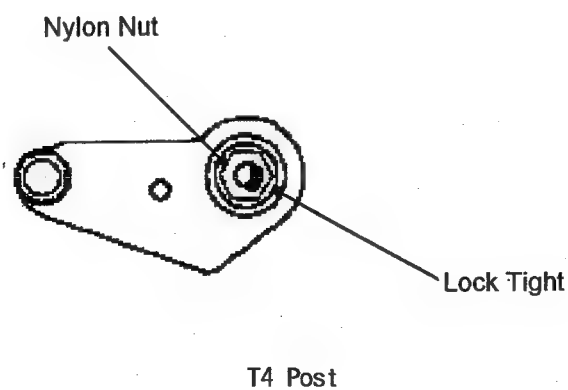
1. Fix the screws by Lock Tight Grew after adjustment.
2. Before adjustment, melt the grew.



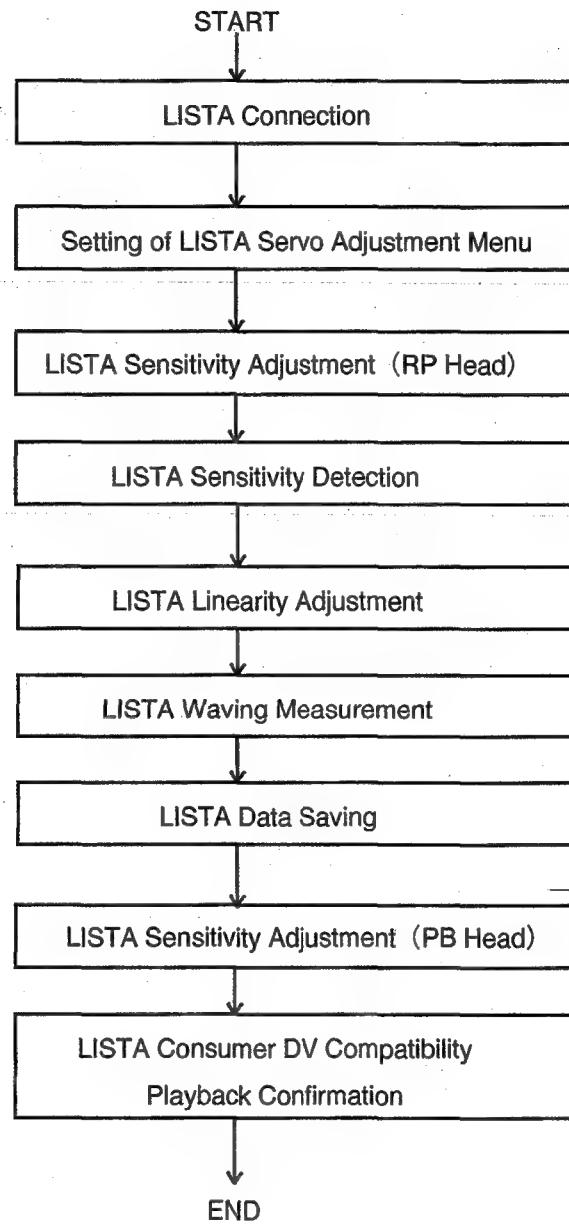
#### 5-42. T3 Post, T4 Post Lock Tight Grew

	T3 Post	T4 Post
Lock Tight Grew quantity	1/4 of the screw	1/4 of the screw

1. After adjustment, attach the lock tight grew at the nylon nut.
2. Before adjustment, melt the grew.



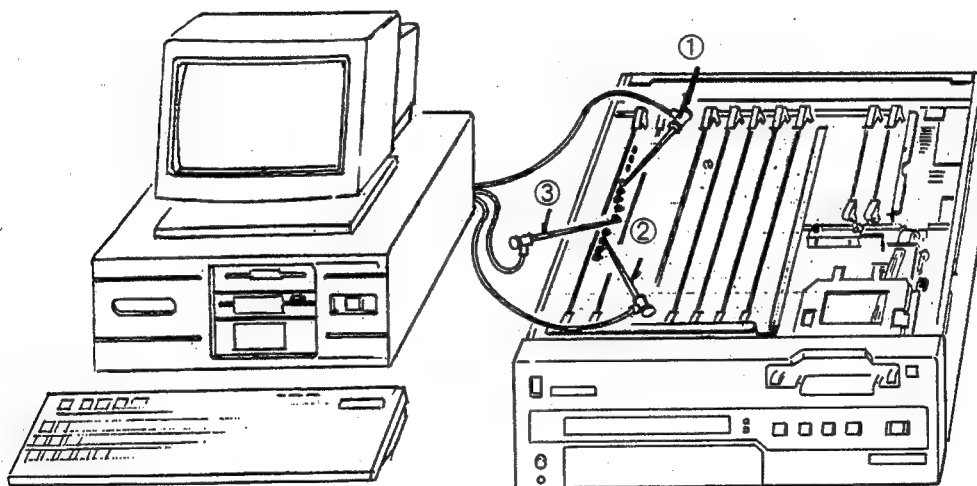
## 5-43. LISTA Adjustment Procedures



#### 5-44. LISTA Connection

Test Point	TP321:ATF error(Servo BOARD : F1) TP233:HSW_R/P (Servo BOARD : F1) TP232:HSW_PB (Servo BOARD : F1) TG510:GND (Servo BOARD : F1)
Equipment	LISTA set
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

1. Connect the probe for LISTA A/D board to the test points as shown in the table.  
Note: HSW is connected to TP232 only for 5-51 "LISTA sensitivity adjustment (PB Head)", and HSW is connected to TP233 for all other adjustment .
2. Prepare the LISTA menu, and select AJ-D750 (item 1 ) on the menu.
3. Select the number of the master tape. If the master tape data is not registered, input the master tape data into PC manually.
4. LISTA menu is started.



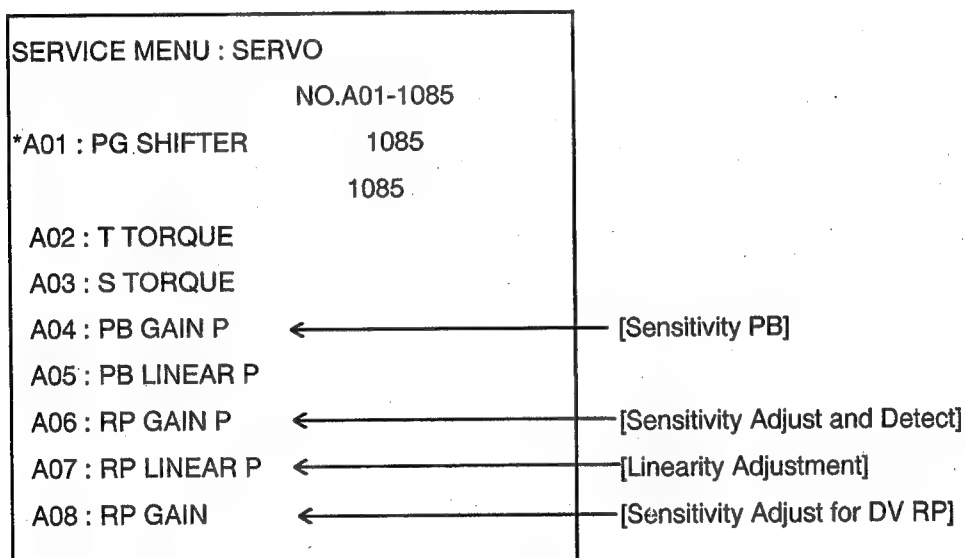
Connection of LISTA cable to Servo P.C.Board.(F1).

- ① To TP321 (ATF Error)
- ② To TP233 (HSW : R/P) or TP232(HSW : PB)
- ③ To TG510 (GND)

※LISTA cable is connected to A/D converter P.C.Board, which is installed to the Computer.

## 5-45. Setting of LISTA Servo Adjustment Menu

1. Connect the TV monitor to the VIDEO OUT 3.
2. Press the MENU button in the pocket at bottom of the front panel, then " SET-UP MENU" appears.
3. Pressing the EJECT button and the STOP button simultaneously, press the MENU button. Then "SERVICE MENU" appears.
4. Move the "\*" mark by ▲ button and ▼ button to A00 : SERVO ADJUST, and press the "SET" button. Then "Servo Adjustment Menu" is displayed.
5. Move the "\*" mark by ▲ button and ▼ button and select the necessary Servo Mode.  
Refer to the each adjustment procedures for more detail.
6. After completion of adjustment, press the MENU button again and exit from SERVICE MENU.



SERVO Menu

LISTA Adjustment Items

## 5-46. LISTA Sensitivity Adjustment (R/P Head )

Specification	Sensitivity $150 \pm 15 (\text{mV} / \mu \text{m})$
Mode	Servo Adjustment Menu:[A06 RP GAIN P]
Test Point	TP321 : ATF Error(Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Adjustment	ATF Gain (Select by ◀ and ▶ buttons)
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

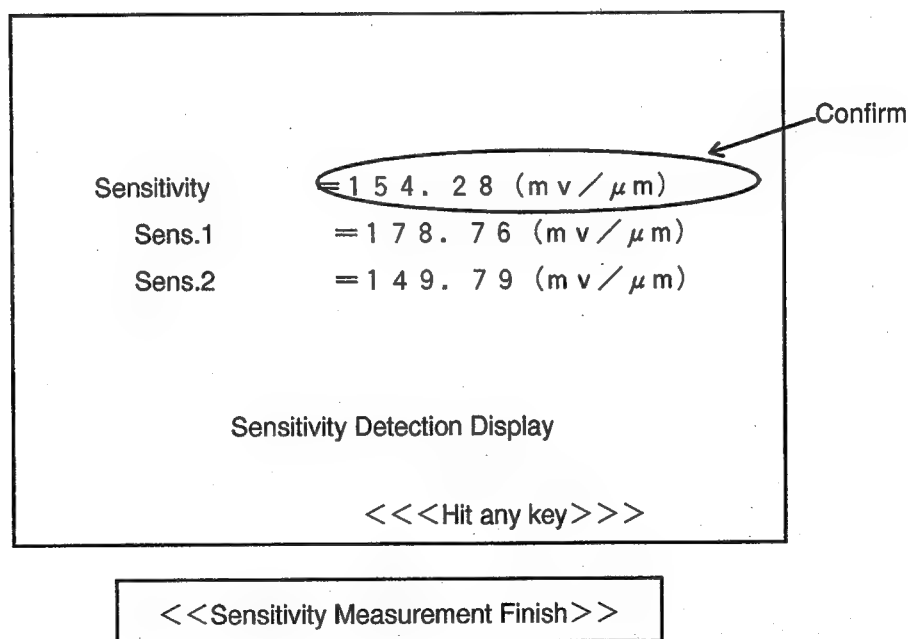
1. Display the Servo menu, and select "A06 RP GAIN P".
2. Playback the LISTA Master Tape.
3. Select the LISTA Menu " (6) ATF Error Signal Monitor " and display the sensitivity data in real time.
4. When the sensitivity data is displayed, adjust ATF Gain so that the sensitivity value at right-up on the monitor is within specification.
5. After Adjustment, press ESC key and exit to the menu mode.

※ ATF Gain is adjusted by pressing ◀ button and ▶ button.

## 5-47. LISTA Sensitivity Detection

Specification	Sensitivity $150 \pm 15 (\text{mV} / \mu \text{m})$
Mode	Servo Adjustment Menu : "A06 RP GAIN P"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

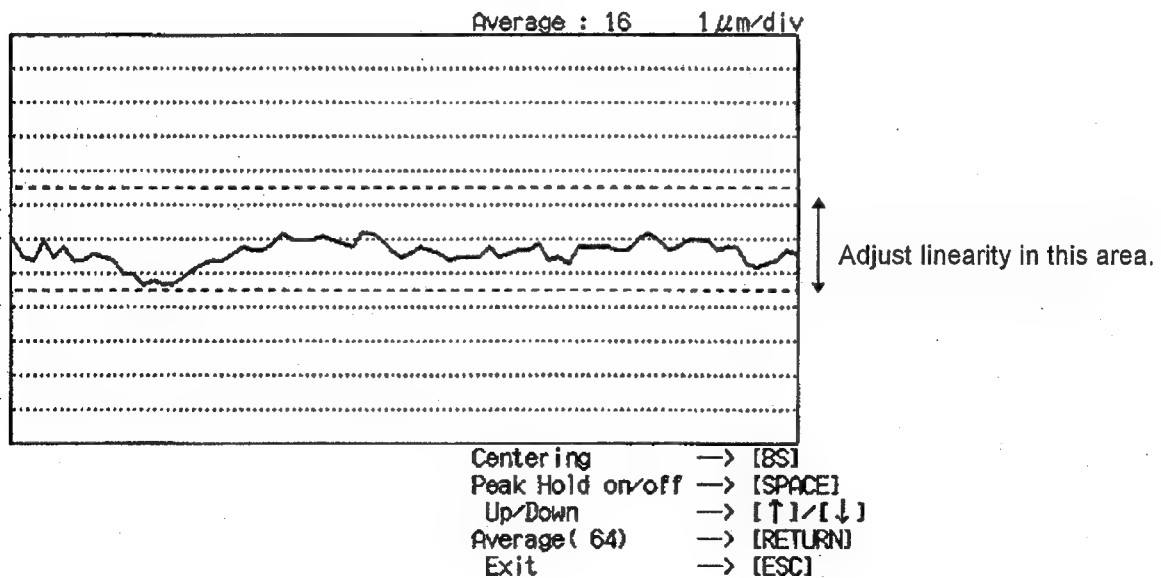
1. Display the Servo menu and select [A06 RP GAIN P].
2. Playback the LISTA Master Tape
  - Item 1 and 2 can be omitted after "LISTA Sensitivity Adjustment (R/P)".
3. Select the [(1) Sensitivity Measurement] and start Sensitivity Detection.
4. When the sensitivity is displayed, confirm the sensitivity is in the specification.
5. If it is out of specification, repeat the "LISTA Sensitivity Adjustment (R/P)".



## 5-48. LISTA Linearity Adjustment

Specification	Linearity: Less than 3 $\mu$ m
Mode	Servo Adjustment Menu : "A07 RP LINEAR P"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Tool	VFK1149(Post driver)
Adjustment	S1, T1 Post Height
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

1. Display the Servo menu and select the "A07 RP LINEAR P".
2. Playback the LISTA master tape.
3. Select the (2) Linearity Measurement on the LISTA menu, and display the linearity.
4. When linearity is displayed, adjust S1 and T1 post so that the linearity is in the specification.
  - Lower part of the monitor shows the lead.
  - Adjust the waveform is in the red dot lines.
5. Adjustment is done while observing the waveform by the oscilloscope. Adjust the post height so that the envelope is correct.

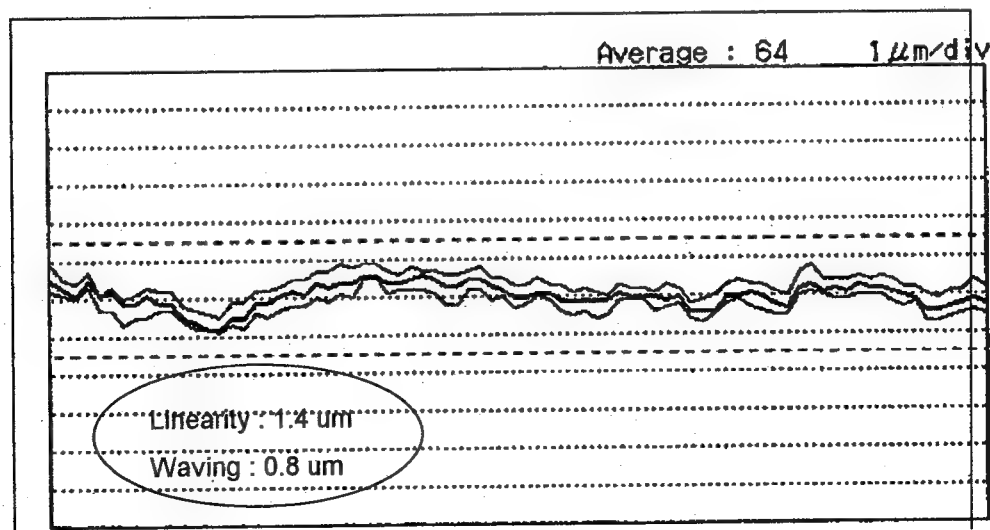




## 5-49. LISTA Waving Measurement

Specification	Waving : Less than 1.5 $\mu$ m
Mode	Servo Adjustment Menu: "A07 RP LINEAR P"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Tool	VFK1149(Post driver)
Adjustment	S1, T1 Post Height
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

1. Display the Servo Adjustment Menu and select " A07 RP LINEAR P ".
2. Playback the LISTA master tape.
3. Select " (2) Linearity Measurement " of LISTA menu, and display the linearity.  
Items 1 through 3 can be omitted just after item 5-48 " Linearity Adjustment".
4. When linearity is displayed, press SPACE key and hold the Peak ( Peak\_Hold) during 30 second.
5. After the Peak\_Hold, display the Waving by pressing "SHIFT" + "{" keys and confirm the waving is in the specification.  
Confirm the waving is same value from entrance to exit of linearity.  
If the waving is out of specification because of bad limit of entrance or exit, adjust S1 and T1 post height again.
6. After completion of adjustment, press ESC key and return to the menu display.



### **5-50. LISTA Data Saving**

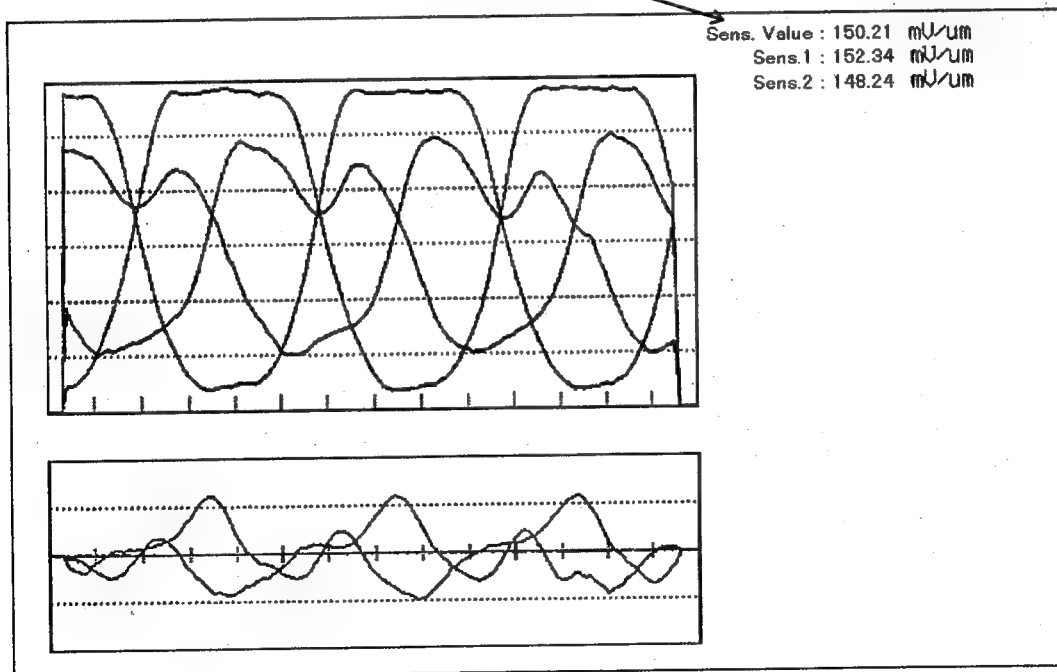
1. This item is done after item 5-49 "LISTA waving measurement".
2. Select the "(3) Data Save / Load" of LISTA menu and select "<1> Save".
3. When waving measurement result is displayed, save the data.
4. Confirm the data is saved.

## 5-51. LISTA Sensitivity Adjustment ( PB Head )

Specification	Sensitivity $150 \pm 15 (\text{mV} / \mu \text{m})$
Mode	Servo Adjustment Menu : "A04 PB GAIN P"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP232 : HSW_PB (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Adjustment	ATF Gain (Select by ◀ and ▶ buttons)
Tape	NTSC: VFM3581KM ( Alignment tape No.2 LISTA master) PAL: VFM3681KM ( Alignment tape No.2 LISTA master)

1. Display the Servo menu, and select " A04 PB Gain P "
2. Playback the LISTA Master Tape.
3. Select the LISTA Menu " (6) ATF Error Signal Monitor " and display the sensitivity data in real time.
4. When the sensitivity data is displayed, adjust ATF Gain so that the sensitivity value at the upper-right on the monitor is in the specification.
5. ATF Gain is adjusted by pressing ◀ button and ▶ button.
6. After Adjustment, press ESC key and exit to the menu mode.

Adjust this Value in the specification



## 5-52. LISTA Consumer DV Compatibility Playback Confirmation

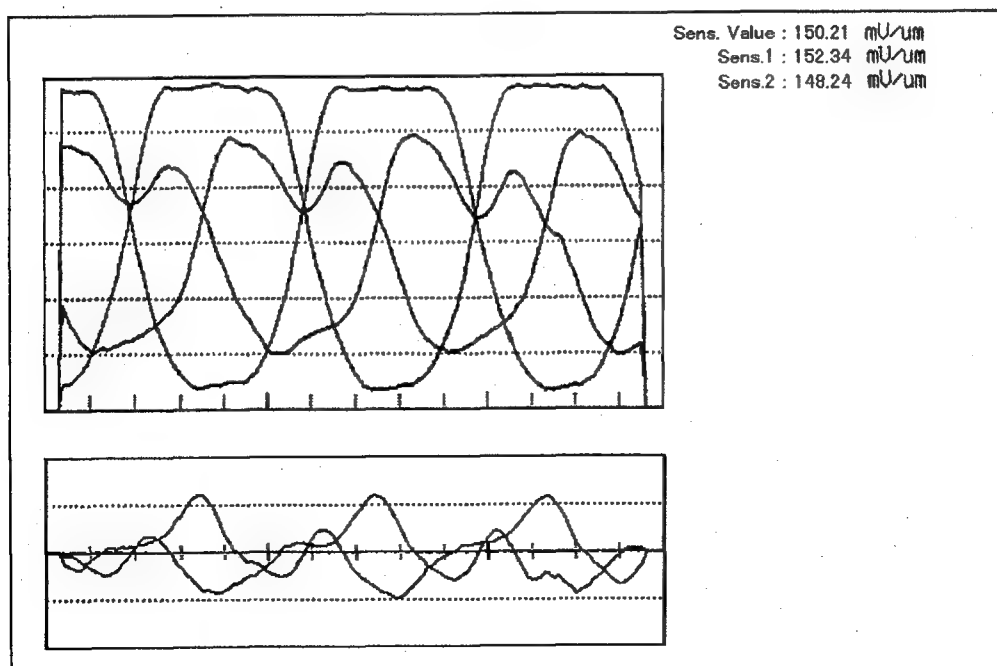
Specification	Sensitivity : $130 \pm 30 (\text{mV} / \mu \text{m})$
Mode	Servo Adjustment Menu: "A08 RP GAIN"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Tape	VFM3000EDS ( LISTA Master Tape for consumer DV )

1. Select "A08 RP GAIN" of the Servo Adjustment menu.
2. Select " (4) LISTA Alignment Tape " of LISTA menu and select the "NTSC or PAL" number of DV tape number which is used for adjustment.

**NOTE:** The Alignment tape (VFM3000EDS) is common use NTSC and PAL.

Please be careful select the "NTSC" or "PAL" on the above menu, which is applied to the VTR.

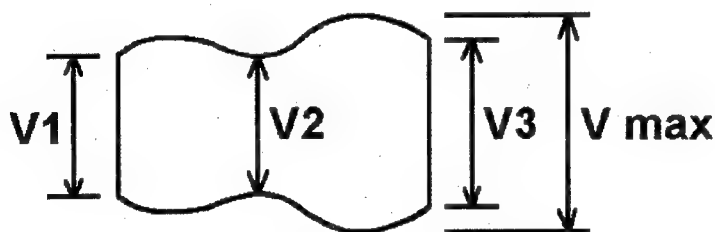
3. Playback the consumer DV LISTA master Tape.
4. Select the " (6) ATF Error Signal Monitor " and display the sensitivity data.
5. When the sensitivity data is displayed, adjust ATF Gain so that the sensitivity value at the upper-right on the monitor is in the specification.
6. ATF Gain is adjusted by pressing ◀ button and ▶ button.
7. After completion of adjustment, press ESC key to return to the menu and select (1) sensitivity Measurement.
8. Confirm the sensitivity value is in the specification.



### 5-53. Playback Envelope Confirmation

Specification	$V1 / V_{max}$ 、 $V2 / V_{max}$ 、 $V3 / V_{max} \geq 0.8$
Mode	A T F Control      P L A Y
Test Point	T P 1 5 : PB Envelope ( R F BOARD : H 4 )
Equipment	Oscilloscope
Adjustment	_____
Tool	_____
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM(Alignment Tape No.1 Color Bar Portion)

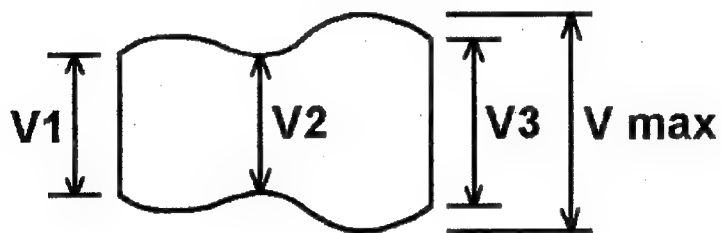
1. After the LISTA adjustment, Playback the color bar portion of the alignment tape.
2. Confirm the Envelope is in the specification.
3. If it is not in the specification, adjust the envelope and adjust LISTA adjustment.



#### 5-54. Self Recording Playback Envelope Confirmation

Specification	$V1 / V_{max}$ 、 $V2 / V_{max}$ 、 $V3 / V_{max} \geq 0.8$
Mode	A T F Control    P L A Y
Test Point	T P 1 6 : R / P Envelope ( R F   BOARD : H 4 ) T P 1 5 : P B Envelope ( R F   BOARD : H 4 )
Equipment	Oscilloscope
Adjustment	_____
Tool	_____
Tape	Work Tape for self recording and playback

1. After the LISTA adjustment, recording color bar and playback the recorded portion.
2. Confirm the Envelope is in the specification.
3. If it is not in the specification, adjust the envelope and adjust LISTA adjustment.



# SECTION 4

## ELECTRICAL ADJUSTMENT

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# 1 Servo Circuit Adjustment

## 1 - 1 Motor Torque Offset Adjustment

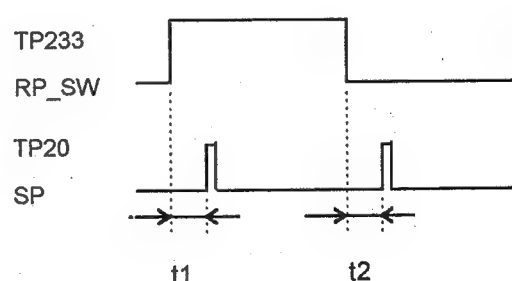
BOARD	SERVO (F1)
SPEC.	15 $\pm$ 2g (5 times average)
TEST	Connect Monitor TV to VIDEO OUT3
ADJUST	Cursor button
INPUT	
MODE	EJECT (Test mode)
TAPE	No Tape
M.EQ	VFK1191 (Torque Meter) VFK1152 (Adapter)

1. Turns Power off. Remove the front loading unit with the connection cable or remove the Top Plate of front loading unit, which is fixed by 4 screws.. Then turns Power on.
2. Open the Service menu.
  - ① Press the menu button.
  - ② While pressing the eject key and the stop key, Press the menu key.
3. Set the marker at SERVO by the cursor button(▲, ▼), and set SET\_SW to ON.
4. Select T\_REEL\_TRQ mode by the cursor button.
5. Set a Torque Meter at Take-up Reel and adjust the torque in specification by cursor (<, >). Measure it 5 times and calculate the average, and adjust it so that the average is in the specification.
6. Select S-REEL-TRQ mode.
7. Set a Torque Meter at S-REEL and adjust the torque in specification by the cursor (<, >). Measure it 5 times and calculate the average, and adjust it so that the average is in the specification.
8. After adjustment, press the Menu button twice for the VTR is escape from Service Menu mode.
9. Turns Power off and return the front loading unit.

## 1 - 2 PG Shifter Adjustment

BOARD	SERVO (F1)
SPEC.	t1, t2 = 126.4 $\mu$ s $\pm$ 2 $\mu$ s
TEST	TP233 , TP20
ADJUST	Cursor button
INPUT	
MODE	PLAY (Test mode)
TAPE	NTSC: VFM3580KM (0min to 14min) PAL: VFM3680KM (0min to 10min)
M.EQ	Oscilloscope

1. Open the SERVICE menu.
2. Set the Marker at SERVO by cursor button (▲, ▼) so that the SET\_SW is on.
3. Select to PG SHIFT by cursor button (▲, ▼).
4. Playback the color bar portion of alignment tape.
5. Press cursor (<, >) button and keep it until the number which is displayed at right of PG SHIFT is renewed.
6. Connect the scope to TP233 and TP320. Trigger the scope by TP233. Then it is displayed as shown in figure.
7. Confirm the t1 and t2 of RP\_HSW and SPA are 126.4  $\mu$ S  $\pm$  2  $\mu$ S .

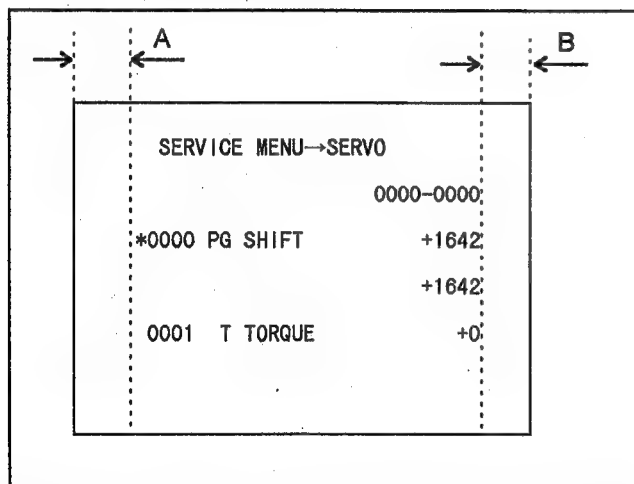


## 2 System Control

### 2 -1 Super Impose Position Adjustment

BOARD	SYSCON (F2)
SPEC.	
TEST	
ADJUST	VC1
INPUT	
MODE	MODE:EE
TAPE	
M.EQ	Monitor TV

1. Open the SERVICE menu.



2. Adjust VC1 so that the width A and B are equal.
3. Set the front SW as shown below, and reset the MENU.

NOTE: The menu may be different from the above figure.

### 3 ADDA CUE P.C.Board

#### 3 - 1 Initial Setting of CUE Adjustment

BOARD	ADDA (F8)
SPEC.	
TEST	
ADJUST	
INPUT	
MODE	
TAPE	
M.EQ	

1. Set the Audio REC Level VR's to center.
2. Set the switches as shown below.

Ref No.	Name	Position
SW4001	CH1 Input Impedance	HIGH
SW4061	CH2 Input Impedance	HIGH
SW4382	NR Select	TEST
SW4381	REC. EQ	ON

1.3 ON

1 ☐

2 ☐

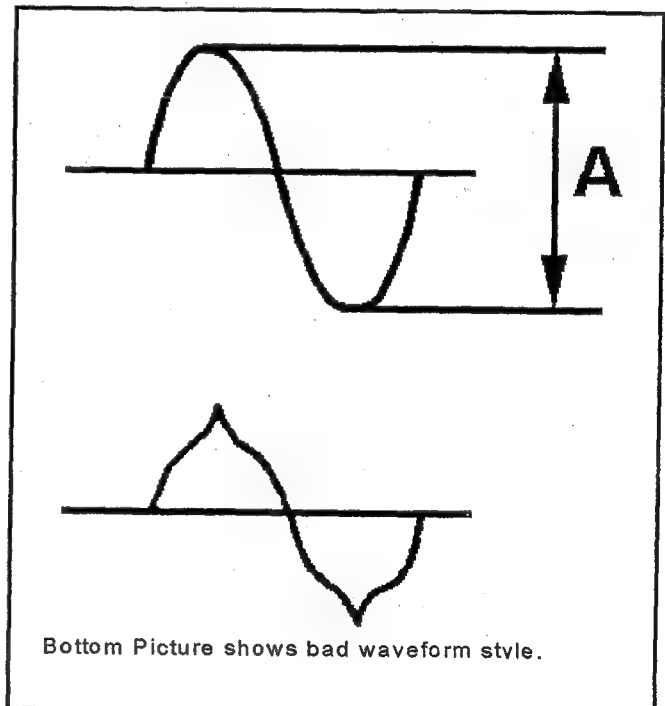
3 ☐

4 ☐

#### 3 - 2 CTL Erase/CUE Erase Current Adjustment

BOARD	ADDA (F8)
SPEC.	290mV $\pm$ 50mV
TEST	TP4502 (CTL Erase), TP4501 (CUE Erase)
ADJUST	T4504 (CTL Erase), T4503 (CUE Erase)
INPUT	
MODE	REC PLAY
TAPE	REC/PB Tape
M.EQ	Oscilloscope

1. Adjust T4504 so that the voltage at TP4502 is in the specification
2. Adjust T4502 so that the voltage at TP4501 is in the specification.



### 3 - 3 CUE Bias Current Adjustment

<b>BOARD</b>	ADDA (F8)
<b>SPEC.</b>	7mVrms $\pm$ 0.5mV
<b>TEST</b>	TP4382 (GND: TP4383)
<b>ADJUST</b>	T4501, VR4501
<b>INPUT</b>	No signal Input
<b>MODE</b>	REC-PLAY
<b>TAPE</b>	REC/PB Tape
<b>M.EQ</b>	Electric Volt Meter

1. Connect the Electric Volt meter between TP4382 and TP4383 (GND) and confirm the voltage is in the specification.
2. If it is out of specification, adjust T4501 so that the level becomes maximum and adjust VR4501 so that the level is in the specification.

### 3 - 4 CUE PB Level Adjustment

<b>BOARD</b>	ADDA (F8)
<b>SPEC.</b>	0dBu $\pm$ 0.5dB
<b>TEST</b>	CH1 OUT (XLR Connector)
<b>ADJUST</b>	VR4382
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (0 to 10min) PAL: VFM3680KM (0 to 10min)
<b>M.EQ</b>	Audio Analyzer

1. Open the SERVICE MENU.
2. Set the mark "\*" to AUDIO ADJUST by cursor button, then press the set button.
3. Select the item "E04: LINE OUT CUE" and set to on.
4. Playback CUE Level master part of the alignment tape and adjust VR4382 so that the CUE OUT level is in the specification.

### 3-5 Noise Cancel Adjustment

BOARD	ADDA (F8)
SPEC.	Less than -40dBu
TEST	CH1 OUT (XLR Connector)
ADJUST	VR4383, VR4384
INPUT	
MODE	PLAY
TAPE	No Signal Recorded Tape
M.EQ	Audio Analyzer

1. Connect the Audio Analyzer to CH1 OUT with 1/3 OCT BPF (600Hz) and the noise level is in the specification.
2. If it is not adjust VR4384 and then adjust VR4383 so the noise level is in the specification.
3. If it is not, repeat item 2.

### 3-6 CUE REC/PB Level Coarse Adjustment

BOARD	ADDA (F8)
SPEC.	0dBu $\pm$ 1dB
TEST	CH1 OUT (XLR Connector)
ADJUST	VR4381
INPUT	1KHz, 0dBu
MODE	REC PLAY
TAPE	REC/PB Tape
M.EQ	Audio Analyzer

1. Open the SERVICE menu.
2. Set the mark "\*" to item "E00:AUDIO ADJUST" by cursor button, then press the SET button.
3. Select item "E04:LINE OUT CUE" and set to on.
4. During the recording mode, slightly adjust VR4381.
5. Playback the just recorded portion and confirm that the Audio level is within the specification.
6. If not, repeat steps 4 and 5.

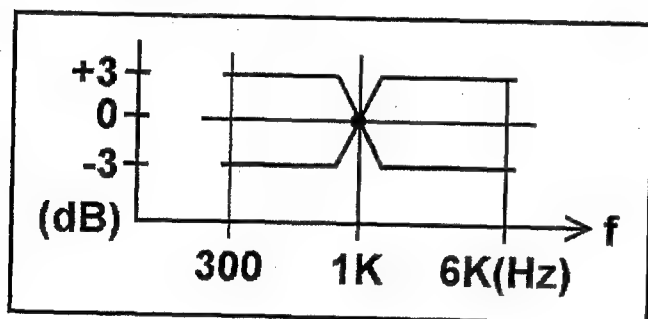
### 3 - 7 CUE REC/PB Frequency Characteristic Adjustment

BOARD	ADDA (F8)
SPEC.	300Hz~6kHz 1KHz $\pm$ 3dB
TEST	CH1 OUT (XLR Connector)
ADJUST	SW4382 SW4381-1,2,3,4
INPUT	300Hz~6kHz, 0dBu
MODE	REC PLAY
TAPE	REC/PB Tape
M.EQ	Audio Analyzer

1. Set SW4382 at normal side.
2. Record a 300Hz through 6kHz, 0dBu sine waveform for a few minutes.
3. Playback the just recorded portion and confirm the 300Hz through 6kHz signal are within  $\pm$  3dB compared with 1kHz level.
4. If it is out of specification adjust frequency characteristic by SW4381-1,2,3,4.

SW4381-3,4  $\rightarrow$  1kHz~6kHz

SW4381-1,2  $\rightarrow$  6kHz



### 3 - 8 CUE REC/PB Level Adjustment

BOARD	ADDA (F8)
SPEC.	0dBu $\pm$ 1dB
TEST	CH1 OUT (XLR Connector)
ADJUST	VR4381
INPUT	1kHz, 0dBu
MODE	REC PLAY
TAPE	REC/PB Tape
M.EQ	Audio Analyzer

1. Open the SERVICE menu.
2. Set the mark "\*" to item "E00:AUDIO ADJUST" by cursor button, then press the SET button.
3. Select item "E04:LINE OUT CUE" and set to on.
4. During the recording mode, slightly adjust VR4381.
5. Playback the just recorded portion and confirm that the Audio level is within the specification.
6. If not, repeat steps 4 and 5.

## 4 RF

### 4 - 1 Pre EQ Adjustment

<b>BOARD</b>	Connect the RF AMP board (H4) with a extension board.
<b>SPEC.</b>	2.5VDC $\pm$ 0.2V(DVCPRO) 2.0 + 0.5V(DV)
<b>TEST</b>	TP20,TP18
<b>ADJUST</b>	EVR (RP MAG L, RP MAG R,PB MAG L, PB MAG R)
<b>MODE</b>	PLAY
<b>TAPE</b>	(NTSC:VFM3010EDS, PAL:VFM3110EDS) (NTSC: VFM3580KM, PAL: VFM3680KM)
<b>M.EQ</b>	Oscilloscope (Greater than 300Mhz) Monitor TV (Connect to VIDEO 3 OUT)

1. Connect the RF AMP board (H4) with extension board.
2. Connect the scope to TP20 and connect the ground to TG9.
3. Connect the scope to TP1 for trigger.
4. Insert a DV MASTER Tape.
5. Open the service menu.
6. Set the mark "\*" item "C00 RF Adjust" by cursor button, then press the set button.
7. Playback a color bar portion of DV Color bar Master Tape.
8. Adjust C09 RP MAG L and C10 RP MAG R so that the DC voltage is  $2.0 \pm 0.5V$ .
9. Eject a DV MASTER Tape then insert a DVCPRO master tape (VFM3580KM).
10. Playback the color bar portion of VFM3580KM.
11. Adjust C09 RP MAG L and C10 RP MAG R so that the DC voltage is  $2.5 \pm 0.2V$ .
12. Connect the scope TP18 and connect the ground to TG7.
13. Connect the scope TP2 for trigger.
14. Adjust C13 PB MAG L and C14 PB MAG R so that the DC voltage is  $2.5 \pm 0.2V$ .

### 4 - 2 RF AMP PB Phase Adjustment

<b>BOARD</b>	Connect the RF AMP board (H4) with a extension board.
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	EVR (RP PHASE L, RP PHASE R, PB PHASE L, PB PHASE R)
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(NTSC:VFM3010EDS, PAL:VFM3110EDS) (NTSC: VFM3580KM, PAL: VFM3680KM)
<b>M.EQ</b>	

1. Open the Service Menu.
2. Insert a DV alignment Tape.
3. Set the items as shown below.  
C17 CONCEAL MODE ON  
C18 VITERBI MODE OFF  
C19 PB MODE RP H  
C20 ERROR MODE FAST
4. Playback a color bar portion.
5. Set the Audio CHANNEL indicator to "CH2" by pressing [DIAG] button (Video error is appeared on the Audio meter).
6. Adjust RP PHASE L and RP PHASER so that the error rate is minimum.
7. Insert a VFM3680KM.
8. Set the items as shown below.  
C17 CONCEAL MODE ON  
C18 VITERBI MODE ON  
C19 PB MODE PR H  
C20 ERROR MODE FAST
9. Playback a color bar portion of VFM3680KM.
10. Adjust RP PHASE L and RP PHASE R so that the error rate is minimum.
11. Change item C19:PB MODE to PB H from RP H.
12. Adjust PB PHASE L and PB PHASE R so that the error rate is minimum.

## **5 EQ**

### **5 - 1 Preparation of EQ Adjustment**

How to open the EQ MENU.

1. Open the service menu.
  - ① Press the menu button.
  - ② While pressing the eject key and the stop key, press the menu key.
2. Set the mark "\*" to item "B00 EQ Adjust" by cursor button, then press set button.



## 5 - 2 PLL Lock Adjustment (PB)

BOARD	EQ (H3)
SPEC.	
TEST	TP403, Monitor
ADJUST	VR410, PB PLL PHASE, PB PLL SLICE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	TV Monitor

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE           AL OFF  
 B25 CONCEAL MODE    OFF  
 B26 VITERBI MODE     OFF  
 B27 PB MODE           PB H  
 B28 ERROR MODE       FAST  
 B29 EQ AUTO ADJ      STOP
5. Playback a color bar tape and confirm the picture is appeared on the monitor.
6. If picture is not appeared, adjust following items.  
 (1) Connect the scope to TP403 and adjust the level is 2.1 V DC.  
 (2) B01 Adjust PB PLL PHASE.  
     B02 Adjust PB PLL SLICE.
7. Repeat STOP to PLAY mode, and confirm the picture is surely appeared every time. If the picture is not appeared, repeat item 3.

## 5 - 3 PLL Latch Phase Coarse Adjustment (PB)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	PB PLL PHASE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE           AL OFF  
 B25 CONCEAL MODE    OFF  
 B26 VITERBI MODE     OFF  
 B27 PB MODE           PB H  
 B28 ERROR MODE       FAST  
 B29 EQ AUTO ADJ      STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust B01 PB PLL PHASE so that the video error rate becomes minimum.

## 5 - 4 PLL Slice Level Coarse Adjustment (PB)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB PLL SLICE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	PB H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback a color bar portion of the alignment tape.
6. Adjust B02 PB PLL SLICE so that the video error rate becomes minimum.

## 5 - 5 EQ Adjustment (1)(PB)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB MAIN DL
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	PB H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback a color bar portion of the alignment tape.
6. Adjust B19 PB MAIN DL so that the video error rate is minimum.

## 5 - 6 EQ Adjustment (2)(PB)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	PB AEQ, PB GAIN L, PB PHASE L, PB GAIN R, PB PHASE R
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	PB H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust each adjustment item so that the each portion's error rate becomes minimum as shown in the table.

Procedures	Adjust VR	Error Rate Portion
1	PB AEQ	VIDEO R & L CH
2	PB GAIN L	VIDEO L CH
3	PB PHASE L	VIDEO L CH
4	PB GAIN R	VIDEO R CH
5	PB PHASE R	VIDEO R CH

## 5 - 7 PLL Latch Phase Fine Adjustment (PB)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	PB PLL PHASE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	PB H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust PB PLL PHASE so that the video error rate becomes minimum.

## 5 - 8 PLL Slice Level Fine Adjustment (PB)

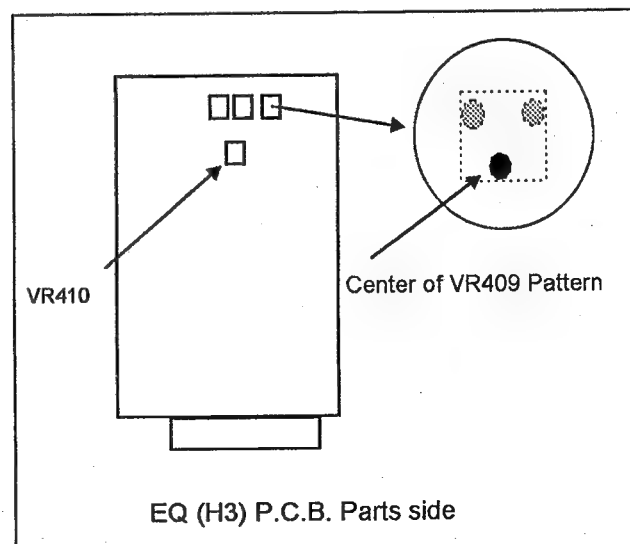
BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	PB PLL SLICE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE                      AL OFF  
 B25 CONCEAL MODE              OFF  
 B26 VITERBI MODE               OFF  
 B27 PB MODE                      PB H  
 B28 ERROR MODE                FAST  
 B29 EQ AUTO ADJ                STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust PB PLL SLICE so that the video error rate becomes minimum.

## 5 - 9 Viterbi A/D Input Level Adjustment

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display, Center of VR409 Pattern
ADJUST	VTB GAIN, VR801
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	Electric Volt Meter

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE                      AL OFF  
 B25 CONCEAL MODE              OFF  
 B26 VITERBI MODE               ON  
 B27 PB MODE                      PB H  
 B28 ERROR MODE                FAST  
 B29 EQ AUTO ADJ                STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust VTB GAIN so that the video error rate is minimum.
7. Connect the Electric Volt Meter to "Center of VR409 Pattern" and confirm the DC voltage is 2.1 V DC to 2.4 V DC. If it is not, adjust VR801.
8. Turns VITERBI MODE off after adjustment.



## 5 - 1 0 PLL Lock Adjustment (R/P Head)

BOARD	EQ (H3)
SPEC.	
TEST	TP203 , Monitor
ADJUST	VR210, RP PLL PHASE, RP PLL SLICE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	TV Monitor

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape and confirm the picture appears on the monitor.
6. If the picture is not appeared adjust following items.
  - (1) Connect the Electric Volt Meter to TP203 and adjust VR210 so that the DC voltage is 2.1 V DC.
  - (2) Adjust RP PLL PHASE  
Adjust RP PLL SLICE
4. Repeat STOP to PLAY and confirm the picture is surely appeared. If it is not, repeat item 3.

## 5 - 1 1 PLL Latch Phase Adjustment (R/P)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	RP PLL PHASE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Adjust RP PLL PHASE so that the video error rate is minimum.

### 5 - 1 6 PLL Slice Level Fine Adjustment (R/P)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	RP PLL SLICE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback a color bar portion of the alignment tape.
6. Adjust RP PLL SLICE so that the video error rate is minimum.

### 5 - 1 7 PLL LOCK Confirmation (Consumer DV)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	
<b>TEST</b>	Monitor
<b>ADJUST</b>	PB PLL SLICE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape and confirm the picture appears on the monitor.  
If the picture is not appeared adjust PB PLL SLICE.
6. Repeat STOP to PLAY and confirm the picture is surely appeared. If it is not, repeat item 3.

### 5 - 1 8 PLL Slice Level Coarse Adjustment (Consumer DV)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB PLL SLICE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape
6. Adjust PB PLL SLICE, so that the video error rate is minimum

### 5 - 1 9 EQ Adjustment (1) (Consumer DV)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB MAIN DL
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust PB MAIN DL so that the error rate is minimum.

## 5 - 2 0 EQ Adjustment (2) (Consumer DV)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB AEQ, PB GAIN L, PB PHASE L, PB GAIN R, PB PHASE R
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust each adjustment item so that the error rate is minimum.

Procedures	Adjust VR	Error Rate Portion
1	PB AEQ	VIDEO R & L CH
2	PB GAIN L	VIDEO L CH
3	PB PHASE L	VIDEO L CH
4	PB GAIN R	VIDEO R CH
5	PB PHASE R	VIDEO R CH

## 5 - 2 1 PLL Slice Level Fine Adjustment (Consumer DV)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB PLL PHASE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust PB PLL SLICE so that the video error rate becomes minimum.



## 5 - 2 2 Consumer DV Viterbi Confirmation

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	VTB GAIN, PB PLL PHASE
INPUT	
MODE	PLAY
TAPE	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

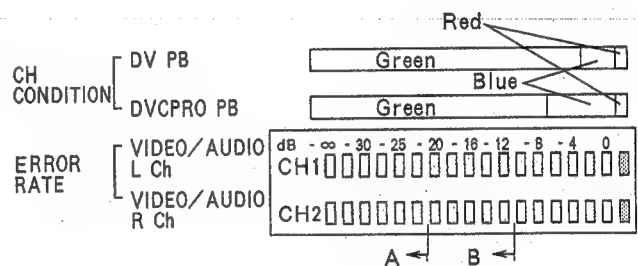
B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	ON
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Confirm the error rate is improved by Viterbi on. The improvement can be confirmed by the error rate meter decrease 5 scale on the front audio meter.
7. If the error rate is not improved so much, adjust following items.
  - (1) Adjust VTB GAIN.
  - (2) Adjust PB PLL PHASE

### How to confirm the Error Rate

1. Playback a DVCPRO/DV Alignment tape.
2. Set the items as shown below.

EQ MENU	DVCPRO PB	DV PB
B24 ECC MODE	AL OFF	AL OFF
B25 CONCEAL MODE	OFF	OFF
B26 VITERBI MODE	AUTO	AUTO
B27 PB MODE	PB H	RP H
B28 ERROR MODE	SLOW	SLOW
B29 EQ AUTO ADJ	STOP	STOP

3. Set the Audio Channel indicator to "CH2" by pressing [DIAG] button (Video error is appeared on the Audio meter).



※ Please refer to condition of the error rate follow the tape format and VTR mode. Indicated as below.

DVCPRO : less than "A" position at level meter.

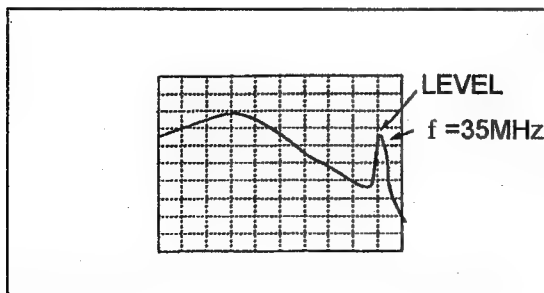
DV : less than "B" position at level meter.

## 6 RF AMP P.C.Board

### 6 - 1 REC Current, Frequency Characteristic Adjustment

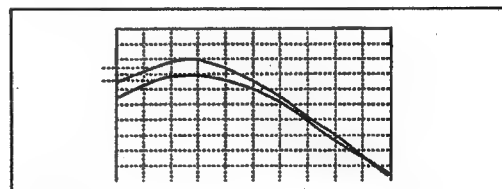
BOARD	RF AMP (H4)
SPEC.	
TEST	TP17, TG7 (GND), TP2 (TRIG)
ADJUST	EVR (REC CUR L, REC CUR R, REC FREQ L, REC FREQ R) VC600, VC601
INPUT	100% Color Bar
MODE	PLAY, REC / PLAY
TAPE	Color Bar NTSC: VFM3580KM, PAL: VFM3680KM REC / PB Tape
M.EQ	Spectrum Analyzer / Monitor TV (Connect to VIDEO 3 OUT)

1. Connect a extension board with RF AMP board (H4).
2. Insert a Alignment tape.
3. Set the items as shown below.  
C17 CONCEAL MODE      ON  
C18 VITERBI MODE      ON  
C20 ERROR MODE      FAST
4. Playback a color bar portion of the alignment tape and write down the error rate (Error rate-A).
5. Connect the trigger of spectrum Analyzer at TP2 .
6. Connect the spectrum Analyzer In at TP17 with a 50ohm coaxial cable (Use GND at TG7).
7. Store the signal on the Spectrum Analyzer in TRACE-A.
8. Eject the color bar tape and insert a R/P tape and record a color bar 100% signal.
9. Adjust VC600 and VC601 so that the peak level of TRACE-B at 35MHz is minimum.



10. Adjust "REC CUR L" and "REC CUR R" so that the level of TRACE-B at 5 MHz is -4 dB  $\pm$  0.5 dB of TRACE-A.
11. Adjust "REC FREQ L" and "REC FREQ R" so that the level at 20 MHz at TRACE-B is maximum.  
**POINT:** Set the confidence playback level is lower less than level of TRACE-A and increase the gain gradually by JOG Dial so that the level is maximum.  
Please set the adjustment value in the first place the level is became maximum.
12. Adjust REC CUR L and REC CUR R so that the level at 5 MHz of TRACE-B is same as TRACE-A.  
**POINT:** Set the confidence playback level is lower less than level of TRACE-A and increase the gain gradually by JOG Dial so that the level is same as TRACE-A.
13. If the level of TRACE B is not same as TRACE A, Confirm that the level of TRACE B is within 0 to -2dB against TRACE A (spec: 0 to -2dB).
14. Record for one minute keeping the above condition. Then playback the just recorded portion and confirm the error rate is same or better than Error Rate A.
15. Return the RF AMP board into the unit.

#### ■ ITEM PARAMETER



REF. LEVEL      -25dB  
 ATT              10dB  
 DIV              5dB/DIV  
 START FREQUENCY 0KHz  
 STOP FREQUENCY 40MHz  
 RES VW          1MHz  
 VBW            3KHz  
 SWEEP          300msec  
 TRIGGER          EXT (HEAD SW)

## 6 - 2 Rotary Erase Current Adjustment

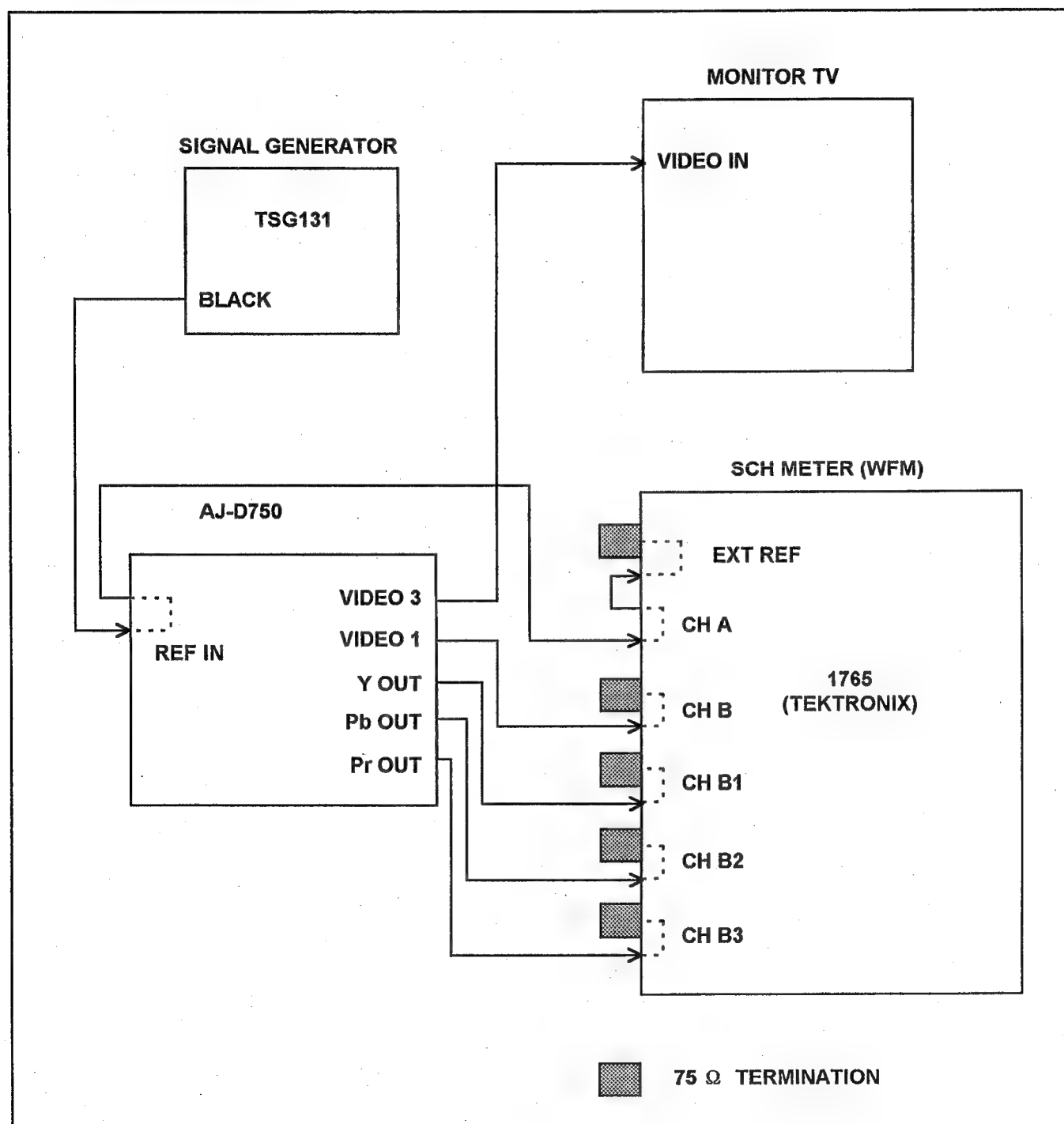
BOARD	RF AMP (H4)
SPEC.	1.0 $\pm$ 0.12V
TEST	TP11, TP12
ADJUST	VR13, VR14
INPUT	100% Color Bar
MODE	REC / PLAY
TAPE	REC / PLAY Tape
M.EQ	Oscilloscope

1. Insert a REC/PLAY tape auto record a 100% color bar.
2. Connect a scope to TP11 with 10:1 probe and adjust VR13 (RE A) so that the DC level is in the specification (1.0  $\pm$  0.2V).
3. Then connect the scope to TP12 and adjust VR14 (RE B) so that the DC level is in the specification (1.0  $\pm$  0.2V).

## 7 Video Out P.C.Board

### Preparation for Video Out Adjustment

1. Connect the equipment as shown in Figure.



### 7-1. DA Reference Voltage Adjustment

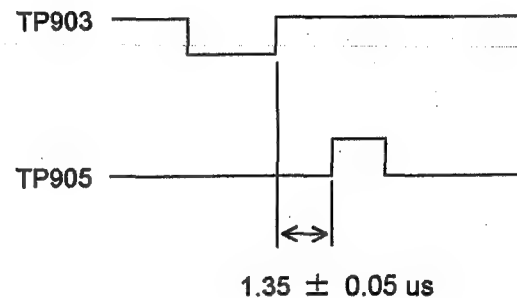
BOARD	V OUT (F4)
SPEC.	$3.9 \pm 0.05\text{VDC}$
TEST	TP300
ADJUST	VR300 (F-1)
INPUT	----
MODE	Play
TAPE	Alignment Tape
M.EQ	Oscilloscope

1. Adjust VR300 so that the DC Voltage is  $3.9 \pm 0.05\text{V}$ .

### 7-2. Sampling Position Adjustment

BOARD	V OUT (F4)
SPEC.	$1.35 \pm 0.05\mu\text{s}$
TEST	TP903, TP905
ADJUST	VR900 (C-1)
INPUT	----
MODE	Play
TAPE	Alignment Tape
M.EQ	Oscilloscope

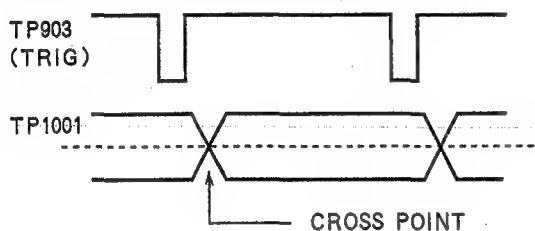
Adjust VR900 so that the phase difference is  $1.35 \pm 0.05\mu\text{s}$  between the rising edge at TP903 and the rising edge at TP905 as shown in figure.



### 7-3. PLL center Frequency Adjustment

BOARD	V OUT (F4)
SPEC.	$0 \pm 0.1V$
TEST	TP1001, TP903 (TRIG)
ADJUST	VC1000 (C-1)
INPUT	-----
MODE	Play
TAPE	Alignment Tape
M.EQ	Oscilloscope

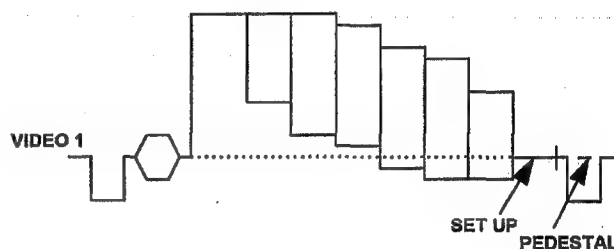
Adjust VC1000 so that the waveform of cross point at TP1001 is  $0 \pm 0.1V$  as shown in figure.



### 7-4. Composite Setup Adjustment

BOARD	V OUT (F4)
SPEC.	Setup level = pedestal level
TEST	Video out1
ADJUST	VR802 (I-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	WFM

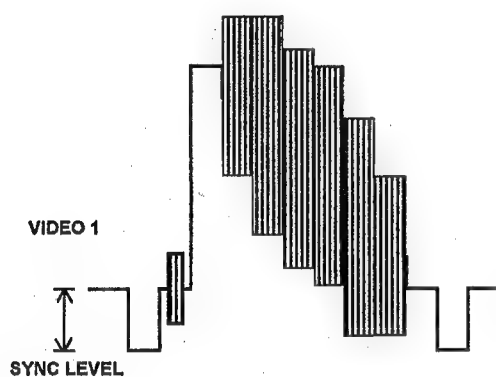
1. Adjust VR802 so that the level difference between the setup level and the pedestal level is  $0 \pm 10mV$ .



## 7-5. Sync Level Adjustment

BOARD	V OUT (F4)
SPEC.	$0.3V \pm 1\%$
TEST	Video out1
ADJUST	VR400 (F-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	WFM

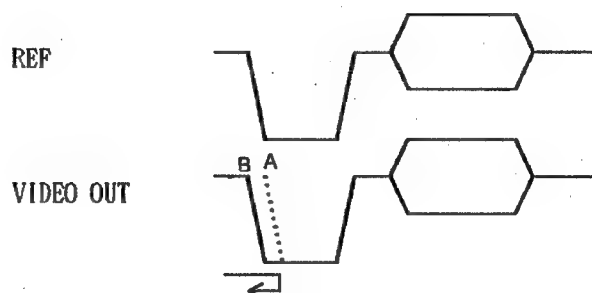
1. Adjustment VR400 so that the sync level is 40  $0.3V \pm 1\%$ .



## 7-6. H PHASE Adjustment

BOARD	V OUT (F4)
SPEC.	-----
TEST	Video out1
ADJUST	VR1100 (C-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	WFM

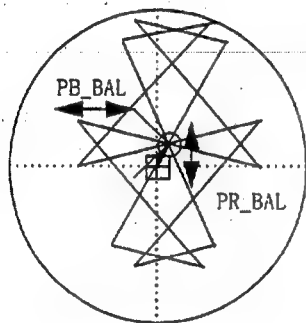
1. Set WFM in the EXT-REF MODE
2. Adjust VR1100 so that the relation between the REF H PHASE and V out H PHASE is as follows by selecting the WFM input REF and V out.
  - (1) Adjust VR1100 so that the V out H PHASE is at A position.
  - (2) After the item (1), Adjust VR1100 so that the V out H PHASE is at B position.



## 7-7. Carrier Balance Adjustment

BOARD	V OUT (F4)
SPEC.	-----
TEST	Video out1
ADJUST	VR505 (H-1), VR506 (H-2)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	VECTOR SCOPE

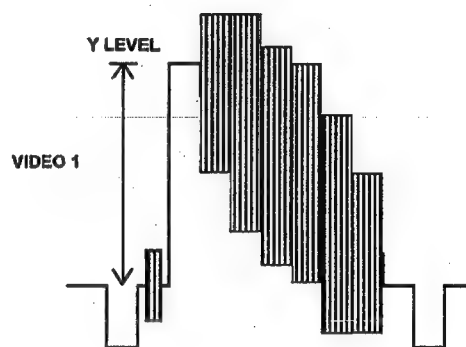
1. Set Vector Scope in the MAX GAIN MODE.
2. Adjust VR505 and VR506 so that the center cross point of the Vector is positioned at the center of vector scope.



## 7-8. Composite Y Level Adjustment

BOARD	V OUT (F4)
SPEC.	0.7V $\pm$ 1%
TEST	Video out1
ADJUST	VR800 (I-2)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	WFM

1. Adjust VR800 so that the Y level is 0.7V  $\pm$  1%.



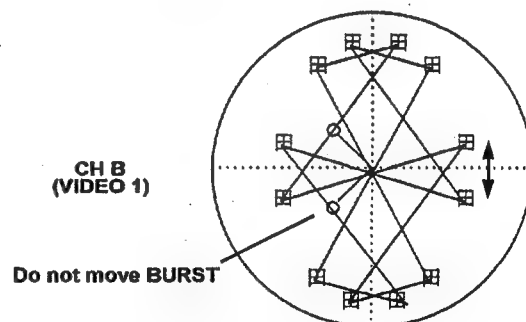
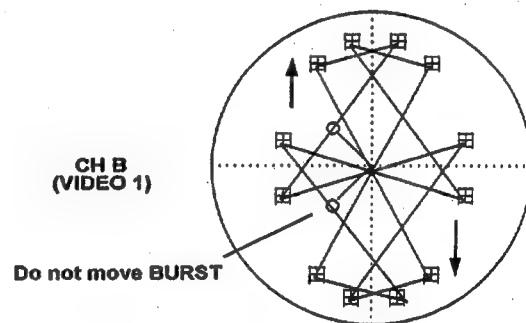
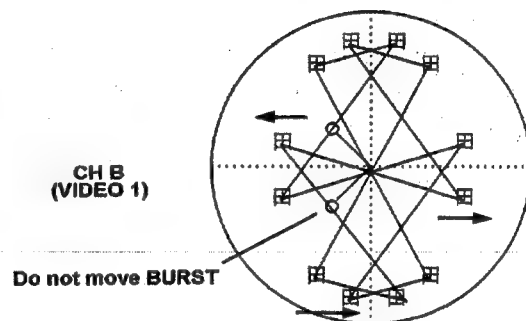
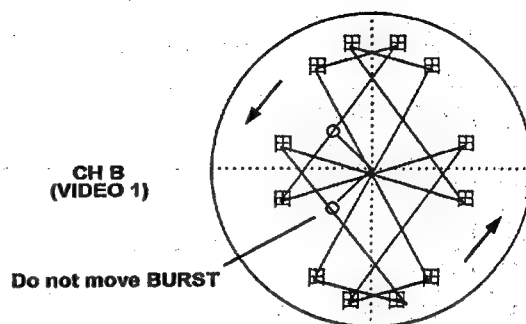
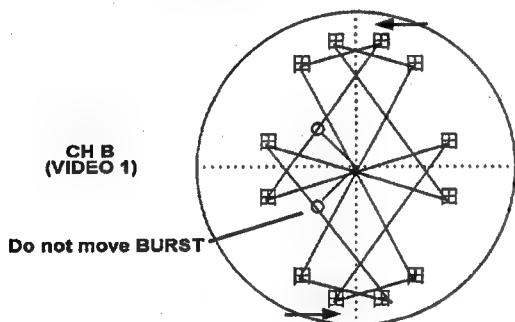


## 7-9. Vector Adjustment

BOARD	V OUT (F4)
SPEC.	-----
TEST	Video out1
ADJUST	VR507(I-1),VR502(I-2),VR501(H-1) VR500(H-2),VC500(I-3)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	VECTOR SCOPE

1. Set the Burst on the Vector scope at correct position.
2. Adjust VR507,VR502,VR501,VR500 and VC500 so that the each vector points are in the marker on the vector scope.

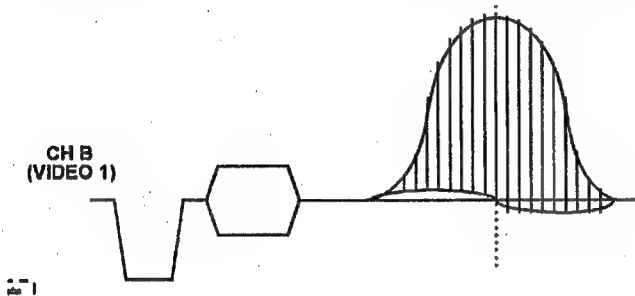
VR507 (QUAD) : Diagonal direction  
 VR502 (HUE) : Rotary direction  
 VR501 (ENC PB LEV) : Horizontal direction  
 VR500 (ENC PR LEV) : Vertical direction  
 VC500 (PAL PHASE)



## 7-10. Composite YC Timing Adjustment

BOARD	V OUT (F4)
SPEC.	$0 \pm 10\mu s$
TEST	Video out1
ADJUST	VR803 (J-2)
INPUT	----
MODE	Play
TAPE	VFM3680KM 22min to 26min
M.EQ	WFM

1. Adjust VR803 so that the right part and left part of 12.5T waveform is symmetric as shown in figure.
2. After this adjustment, adjust the Burst adjustment.



## 7-11. Burst Adjustment

BOARD	V OUT (F4)
SPEC.	----
TEST	Video out1
ADJUST	VR1000 (C-1), VR503 (H-2) VR504 (H-1), VR902 (B-1)
INPUT	----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	SCH Meter

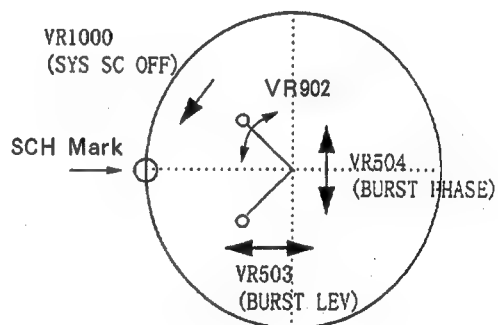
1. Adjust VR1000, VR503, VR504 and VR902 so that Video out signal is match REF IN signal (SYS-SC, Burst level, Burst phase, SCH PHASE).

VR1000 (SYS SC OFF)

VR503 (Burst level)

VR504 (Burst phase)

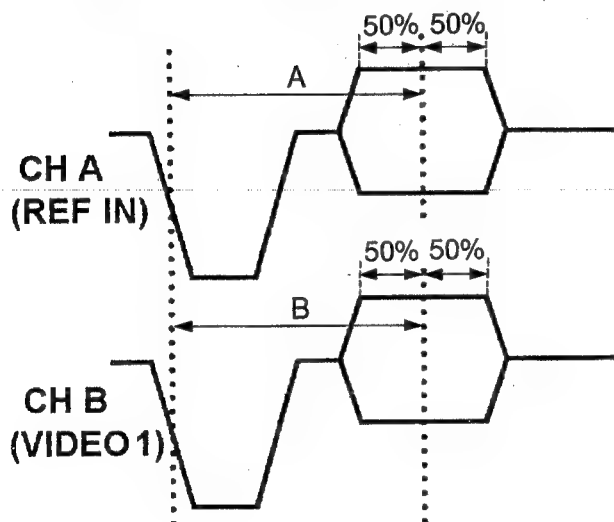
VR902 (SCH phase)



## 7-12. Burst Phase Adjustment

BOARD	V OUT (F4)
SPEC.	-----
TEST	Video out 1
ADJUST	VR1102 (B-2)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	WFM

1. Adjust VR1102 so that A=B as shown in figure.



## 7-13. Vector Fine Adjustment

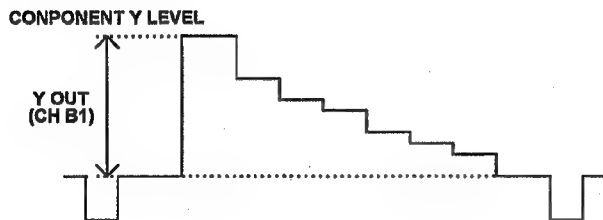
BOARD	V OUT (F4)
SPEC.	-----
TEST	Video out1
ADJUST	VR507(I-1),VR502(I-2),VR501(H-1) VR500(H-2),VC500(I-3)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	VECTOR SCOPE

1. After completion of adjustment items from 7-10 to 7-12, repeat adjustment item 7-9 Vector Adjustment.

### 7-14. Component Y Level Adjustment

BOARD	V OUT (F4)
SPEC.	700mV $\pm$ 1%
TEST	Y OUT
ADJUST	VR301 (G-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	WFM

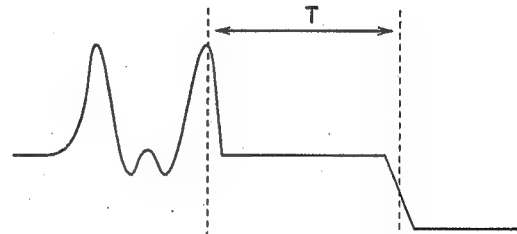
1. Adjust VR301 so that the Y level is 700 mV  $\pm$  1%.



### 7-15. Video Phase Adjustment

BOARD	V OUT (F4)
SPEC.	0.96 $\pm$ 0.02u
TEST	Y out
ADJUST	VR1050 (A-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 14min to 18min
M.EQ	WFM

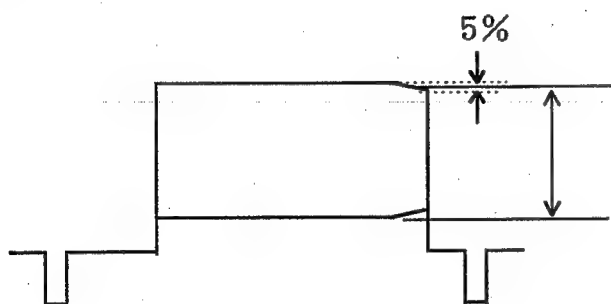
1. Playback the active area marker portion of the alignment tape.
2. Adjust VR1050 so that the timing T is within specification as shown in figure.



## 7-16. Component Y Frequency Adjustment

BOARD	V OUT (F4)
SPEC.	5.75 MHz -5%
TEST	Y out
ADJUST	VR304 (G-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 10min to 14min
M.EQ	WFM

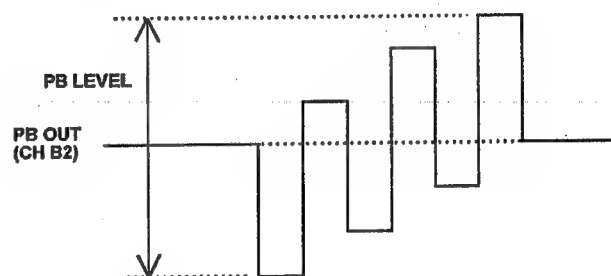
Adjust VR304 so that the frequency characteristic is flat.



## 7-17. Component PB Level Adjustment

BOARD	V OUT (F4)
SPEC.	700mV $\pm$ 1%
TEST	PB OUT
ADJUST	VR306 (F-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 0min to 10min
M.EQ	WFM

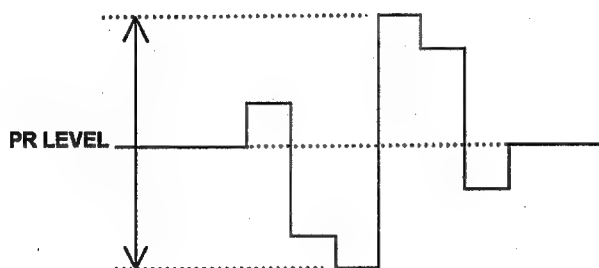
1. Adjust VR306 so that the PB level is 700mV  $\pm$  1%.



### 7-18. Component PR Level Adjustment

BOARD	V OUT (F4)
SPEC.	700mV $\pm$ 1%
TEST	PR out
ADJUST	VR305 (G-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 0min to 10min
M.EQ	WFM

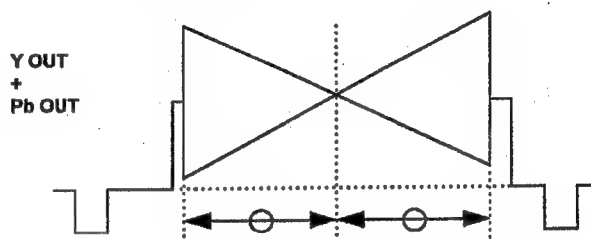
1. Adjust VR305 so that the PR level is 700mV  $\pm$  1%.



### 7-19. Component Y-PB Timing Adjustment

BOARD	V OUT (F4)
SPEC.	0 $\pm$ 10us
TEST	Y out, PB out
ADJUST	VR303 (F-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 18min to 22min
M.EQ	WFM

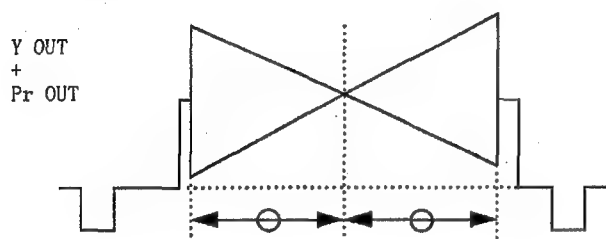
1. Set the WFM in the YC timing measurement mode.
2. Adjust VR303 so that the cross point of envelope is at center.



## 7-20. Component Y-PR Timing Adjustment

BOARD	V OUT (F4)
SPEC.	$0 \pm 10\mu s$
TEST	Y out, PR out
ADJUST	VR302 (G-1)
INPUT	-----
MODE	Play
TAPE	VFM3680KM 18min to 22min
M.EQ	WFM

1. Set the WFM in the YC timing measurement mode.
2. Adjust VR302 so that the cross point of envelope is at center.

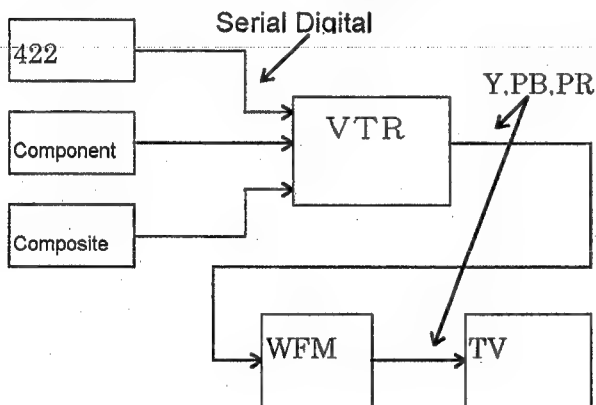


## 8. V IN P.C.Board

### 8-1. Preparation for Video In Adjustment

BOARD	V IN (F6)
SPEC.	
TEST	
ADJUST	
INPUT	
MODE	
TAPE	
M.EQ	

1. Connect the equipment as shown in figure.
2. V IN P.C.Board adjustment should be performed after V out P.C.Board adjustment.



### 8-2. 13.5MHz VCO Adjustment

BOARD	V IN (F6)
SPEC.	$0 \pm 0.1V$
TEST	TP553
ADJUST	VL551 (F-3), VR552 (F-2)
INPUT	ANALOG Y PB PR
MODE	EE
TAPE	----
M.EQ	Oscilloscope

1. Set VR552 to the center.
2. Adjust VL552 so that the DC Voltage is  $0 \pm 0.1V$ .

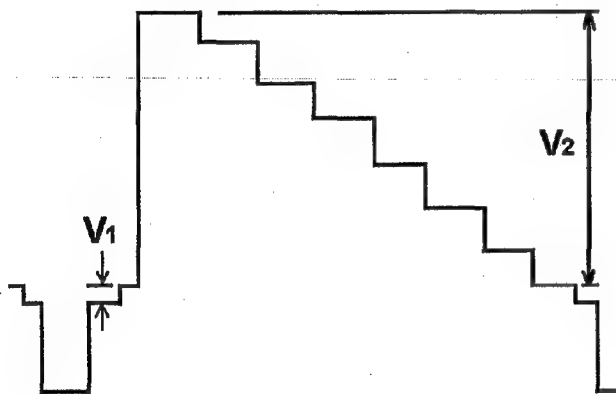
\* First, turn VL551 CCW.



### 8-3. Component Y Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1=0 \pm 7\text{mV}$ $V2=700 \pm 7\text{mV}$
TEST	Y out
ADJUST	VR652 (C-2), VR651 (C-2)
INPUT	ANALOG Y PB PR 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

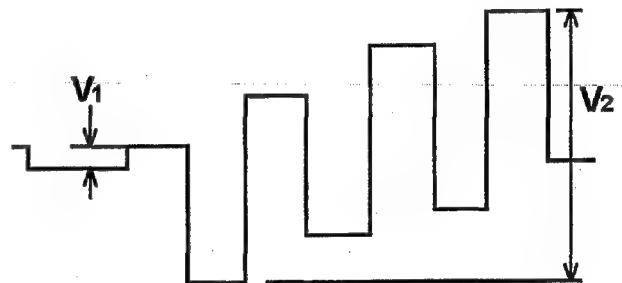
1. Adjust VR652 so that the  $V1$  is  $0\text{V} \pm 7\text{mV}$ .
2. Adjust VR651 so that the  $V2$  is  $700\text{mV} \pm 7\text{mV}$ .



### 8-4. Component PB Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1=0 \pm 7\text{mV}$ $V2=700 \pm 7\text{mV}$
TEST	PB out
ADJUST	VR703 (A-1), VR702 (B-2)
INPUT	ANALOG Y PB PR 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

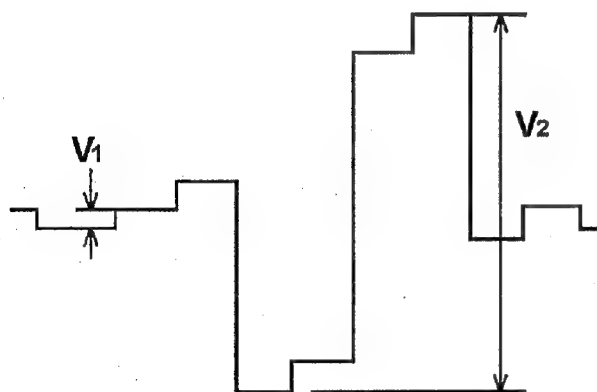
1. Adjust VR703 so that the  $V1$  is  $0 \pm 7\text{mV}$ .
2. Adjust VR702 so that the  $V2$  is  $700 \pm 7\text{mV}$ .



### 8-5. Component PR Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1=0 \pm 7\text{mV}$ $V2=700 \pm 7\text{mV}$
TEST	PR out
ADJUST	VR753 (A-1), VR752 (B-1)
INPUT	ANALOG Y PB PR 100% color bar
MODE	EE
TAPE	----
M.EQ	WFM

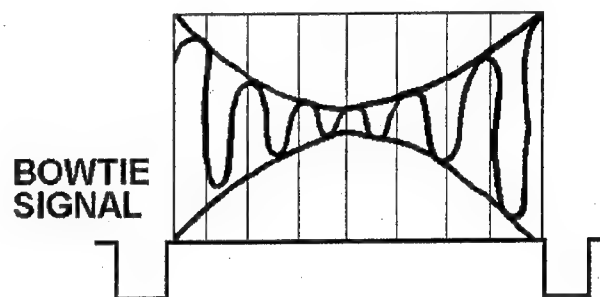
1. Adjust VR753 so that the  $V1$  is  $0 \pm 7\text{mV}$ .
2. Adjust VR752 so that the  $V2$  is  $700 \pm 7\text{mV}$ .



### 8-6. Component YC Timing Adjustment

BOARD	V IN (F6)
SPEC.	$0 \pm 10\mu\text{s}$
TEST	Y,PB,PR out
ADJUST	PB TIM VR701 (B-2), PR-TIM VR751 (B-1)
INPUT	ANALOG Y PB PR BOWTIE
MODE	EE
TAPE	----
M.EQ	WFM

1. Adjust VR701 so that the Y/PB timing is correct.
2. Adjust VR751 so that the Y/PR timing is correct.

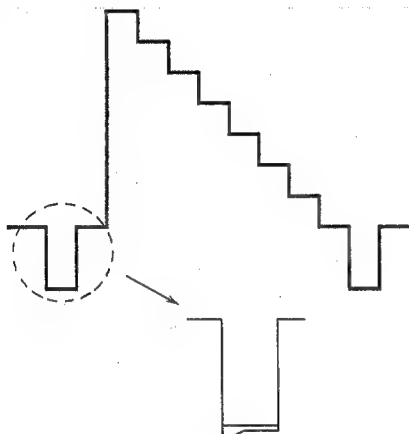


## 8-7. Composite Input Level Adjustment

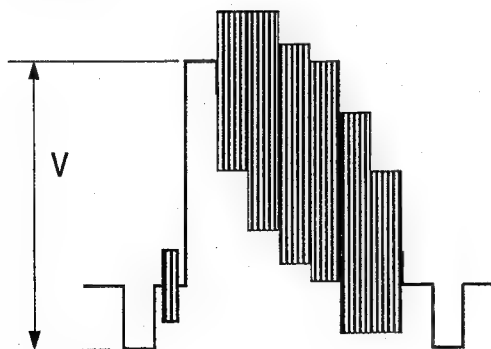
BOARD	V IN (F6)
SPEC.	$V=1.6 \pm 0.02V$
TEST	TP651, TP301
ADJUST	VR301 (I-2), VR251(I-3)
INPUT	COMPOSITE 100% color bar
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

1. Observe TP651 and adjust VR301 at the point where the sync tip just begin to saturate.
2. Adjust VR251 so that the voltage at TP301 is  $1.6 \pm 0.02V$ .

TP651



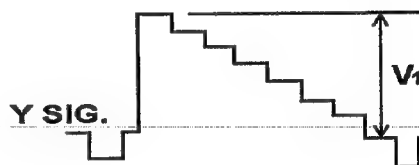
TP301



## 8-8. Composite Y Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1=700 \pm 7mV$
TEST	Y out
ADJUST	VR352 (I-1)
INPUT	COMPOSITE 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

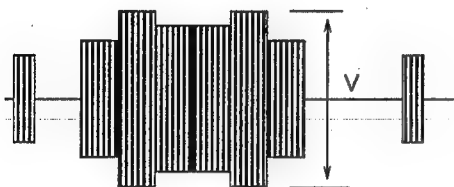
Adjust VR352 so that the V1 is  $700 \pm 7mV$ .



### 8-9. Composite Color Level Adjustment

BOARD	V IN (F6)
SPEC.	$500 \pm 20\text{mVp-p}$
TEST	TP451
ADJUST	VR351 (I-1)
INPUT	COMPOSITE 100% color bar
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

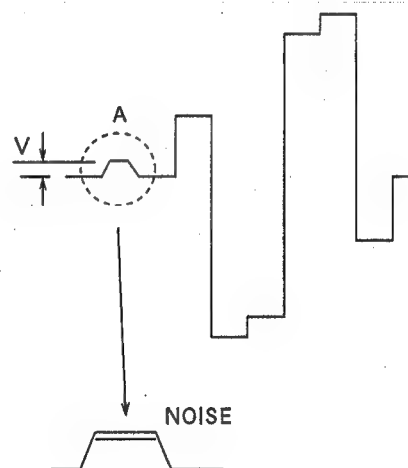
1. Adjust VR360 so that the V is  $500 \pm 20\text{mVp-p}$ .



### 8-10. Composite Color Demodulation Adjustment

BOARD	V IN (F6)
SPEC.	
TEST	TP401
ADJUST	VR408(H-2), VR409(G-2)
INPUT	COMPOSITE 100% color bar
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

1. Adjust VR409 so that the waveform is as shown in figure (no double image).
2. Adjust VR408 so that the noise portion is positioned on the top of A portion as shown in figure.



### 8-11. Composite PB Level Adjustment

BOARD	V IN (F6)
SPEC.	$V_2 = 700 \pm 7\text{mV}$
TEST	PB out
ADJUST	VR460 (F-1)
INPUT	COMPOSITE 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

1. Adjust VR460 so that the  $V_2$  is  $700\text{mV} \pm 7\text{mV}$ .



### 8-12. Composite PR Level Adjustment

BOARD	V IN (F6)
SPEC.	$V_3 = 700 \pm 7\text{mV}$
TEST	PR out
ADJUST	VR464 (F-1)
INPUT	COMPOSITE 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

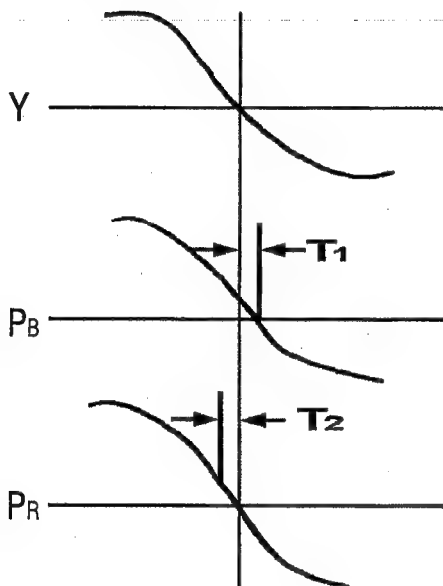
1. Adjust VR464 so that the  $V_3$  is  $700\text{mV} \pm 7\text{mV}$ .



### 8-13. Composite YC Timing Adjustment

BOARD	V IN (F6)
SPEC.	$T_1=0 \pm 10\text{nsec}$ $T_2=0 \pm 10\text{nsec}$
TEST	Y PB PR out
ADJUST	PB TIM:VR459(G-2), PR TIM VR463(F-1)
INPUT	PULSE & BAR
MODE	EE
TAPE	-----
M.EQ	WFM

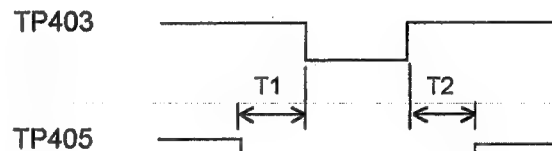
1. Set the WFM in the DIFF MODE.
2. Observe the MOD 12.5T portion.
3. Adjust VR459 so that the  $T_1$  is  $0 \pm 10\mu\text{s}$ .
4. Adjust VR463 so that the  $T_2$  is  $0 \pm 10\mu\text{s}$ .



### 8-14. Composite SCH Detection Adjustment

BOARD	V IN (F6)
SPEC.	$T_1-T_2=\pm 0.5\text{mS}$
TEST	TP403, TP405
ADJUST	VR407 (H-1)
INPUT	COMPOSITE 100% color bar
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

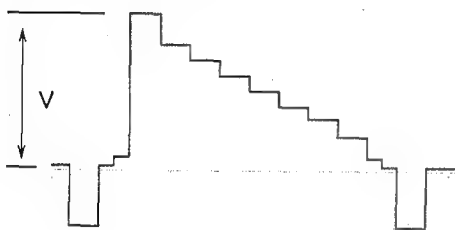
1. Adjust VR407 so that  $T_1=T_2$  as shown in figure.



### 8-15. Y Level (Y/C) Adjustment

BOARD	V IN (F6)
SPEC.	$V=700 \pm 7\text{mV}$
TEST	Y out
ADJUST	VR354
INPUT	S-VIDEO
MODE	EE
TAPE	-----
M.EQ	WFM

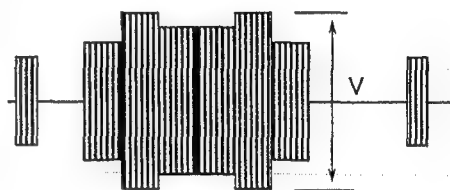
1. Adjust VR354 so that the V is  $700 \pm 7\text{mV}$ .



### 8-16. Color Level Adjustment

BOARD	V IN (F6)
SPEC.	$V=500 \pm 20\text{mVp-p}$
TEST	TP451
ADJUST	VR353 (H-2)
INPUT	S-VIDEO 100 % color bar
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

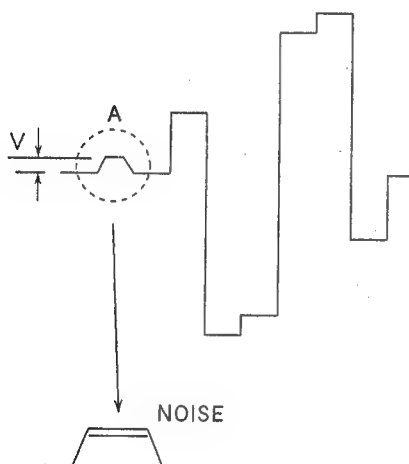
1. Adjust VR353 so that the V is  $500 \pm 20\text{mV}$ .



## 8-17. YC Color Demodulation Adjustment

BOARD	V IN (F6)
SPEC.	
TEST	TP401
ADJUST	VR410 (G-2), VR409 (G-2)
INPUT	S-VIDEO 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

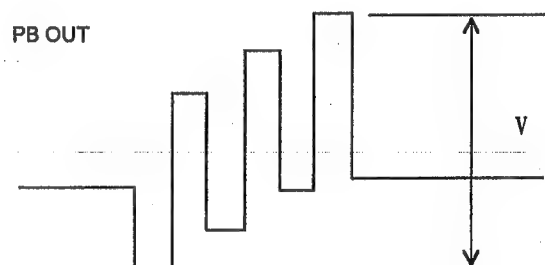
1. Adjust VR409 so that the waveform is as shown in figure (no double image).
2. Adjust VR410 so that the noise portion is positioned on the top of A portion as shown in figure.



## 8-18. PB Level Adjustment

BOARD	V IN (F6)
SPEC.	$V=700 \pm 7\text{mV}$
TEST	PB out
ADJUST	VR462 (F-1)
INPUT	S-VIDEO 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

1. Adjust VR462 so that the V is  $700 \pm 7\text{mV}$ .

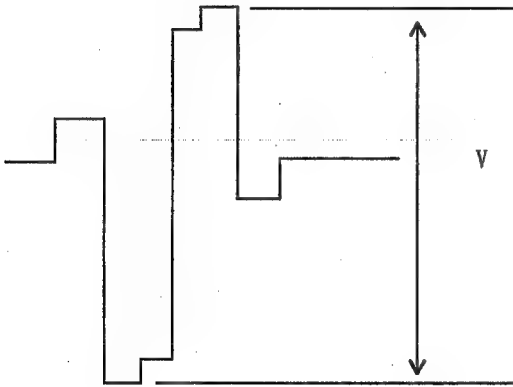




### 8-19. PR Level Adjustment

BOARD	V IN (F6)
SPEC.	$V=700 \pm 7\text{mV}$
TEST	PR out
ADJUST	VR466
INPUT	S-VIDEO 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

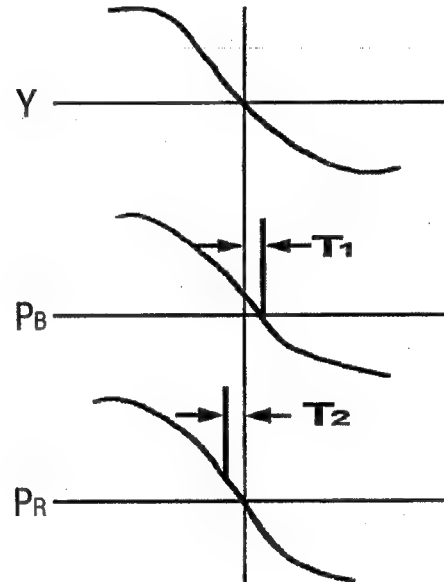
1. Adjust VR466 so that the V is  $700 \pm 7\text{mV}$ .



### 8-20. YC Timing (Y/C) Adjustment

BOARD	V IN (F6)
SPEC.	$T1=0 \pm 10\mu\text{s}$ $T2=0 \pm 10\mu\text{s}$
TEST	Y PB PR out
ADJUST	PB TIM=VR461, PR TIM VR465
INPUT	S-VIDEO 100 % PULSE & BAR
MODE	EE
TAPE	-----
M.EQ	WFM

1. Set the WFM in the DIFF MODE.
2. Observe the MOD 12.5T portion.
3. Adjust VR461 so that the  $T1$  is  $0 \pm 10\mu\text{s}$ .
4. Adjust VR465 so that the  $T2$  is  $0 \pm 10\mu\text{s}$ .



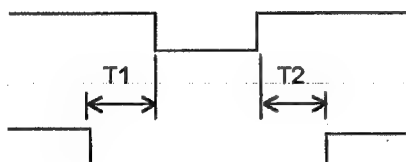
## 8-21. YC SCH Detection Adjustment

BOARD	V IN (F6)
SPEC.	T1-T2=± 0.5mS
TEST	TP403, TP405
ADJUST	VR406 (H-1)
INPUT	COMPOSITE 100% color bar
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

1. Adjust VR406 so that T1=T2 as shown in figure.

TP403

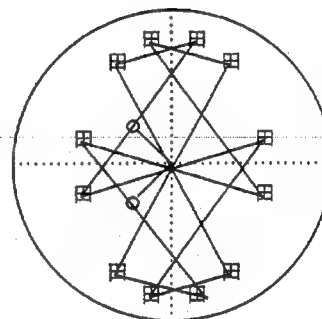
TP405



## 8-22. Vector (Composite) Adjustment

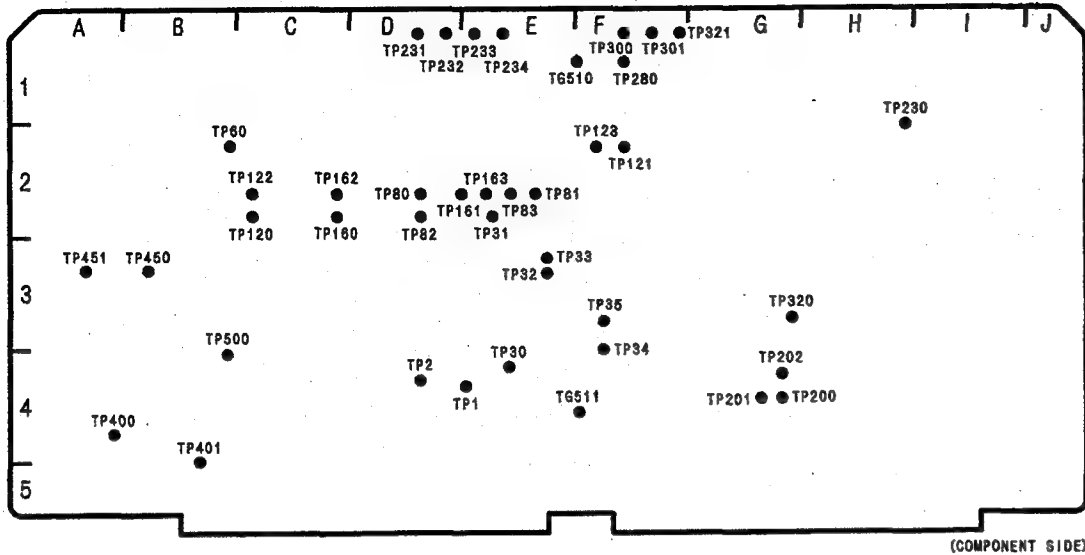
BOARD	V IN (F6)
SPEC.	
TEST	COMPOSITE out
ADJUST	VR409 (G-2)
INPUT	COMPOSITE 75% color bar
MODE	EE
TAPE	-----
M.EQ	VECTOR SCOPE

1. Adjust VR409 so that the each dot is in 田 mark.

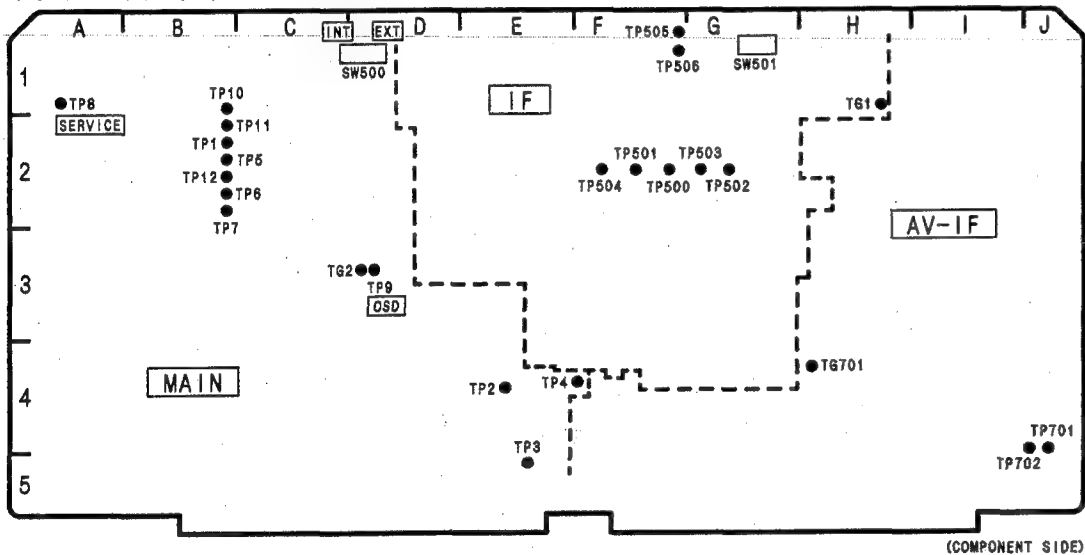


## LOCATION OF TEST POINTS & CONTROLS

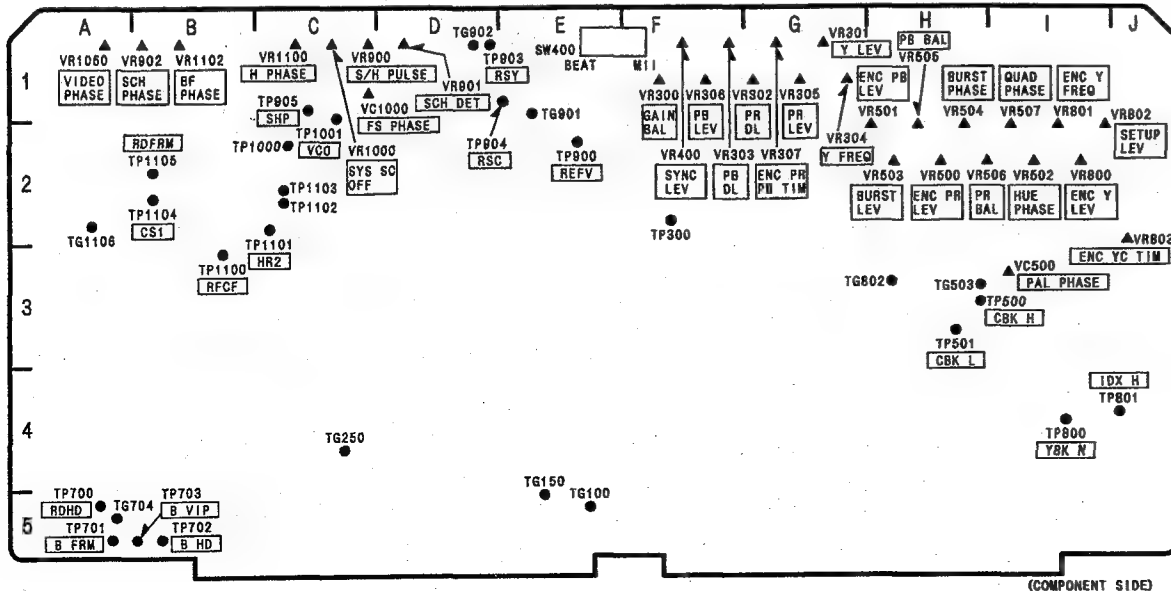
## F1 SERVO P. C. BOARD



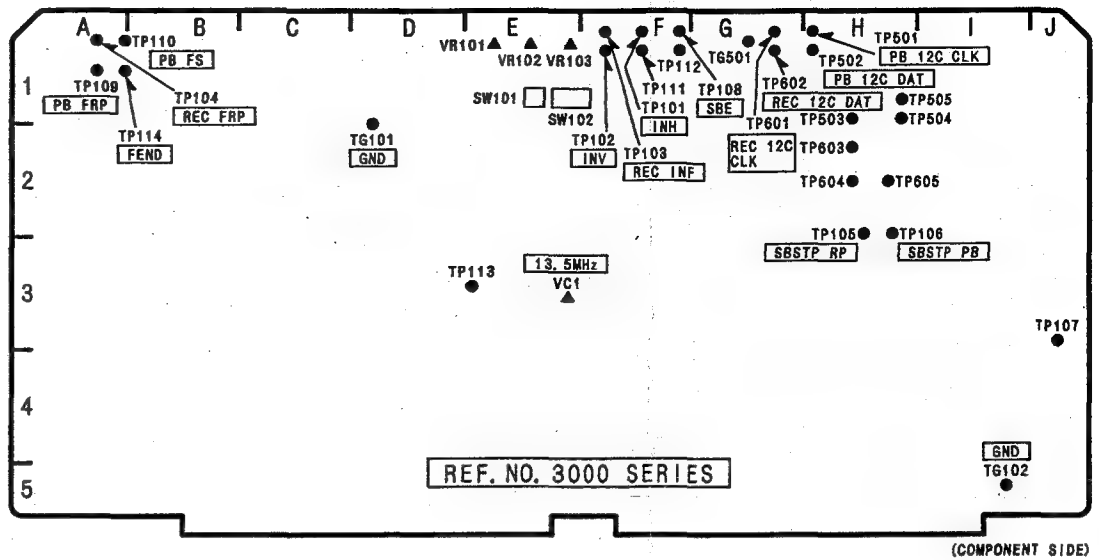
F2 SYSCON P. C. BOARD



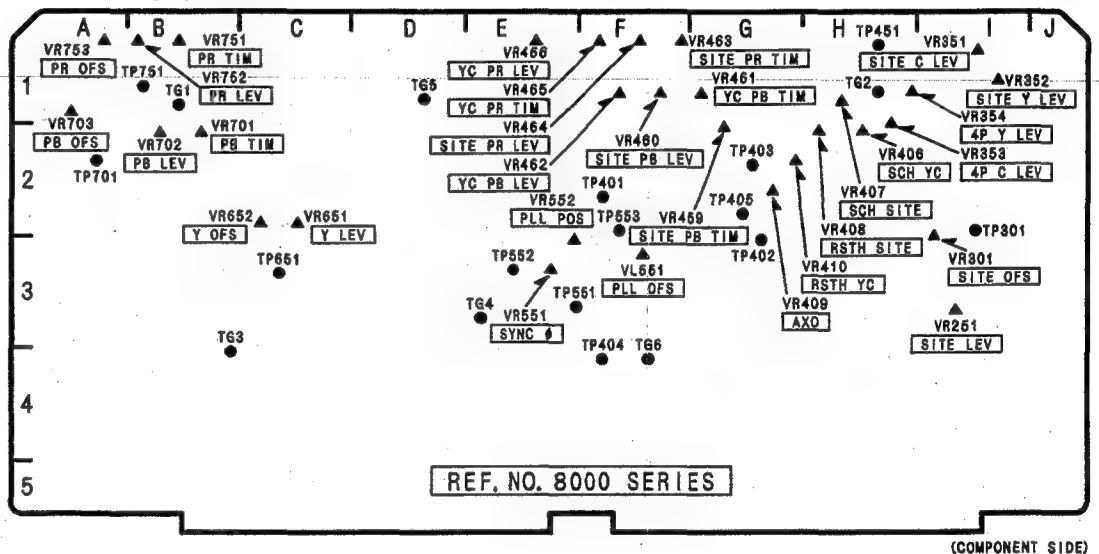
F4 V OUT P. C. BOARD



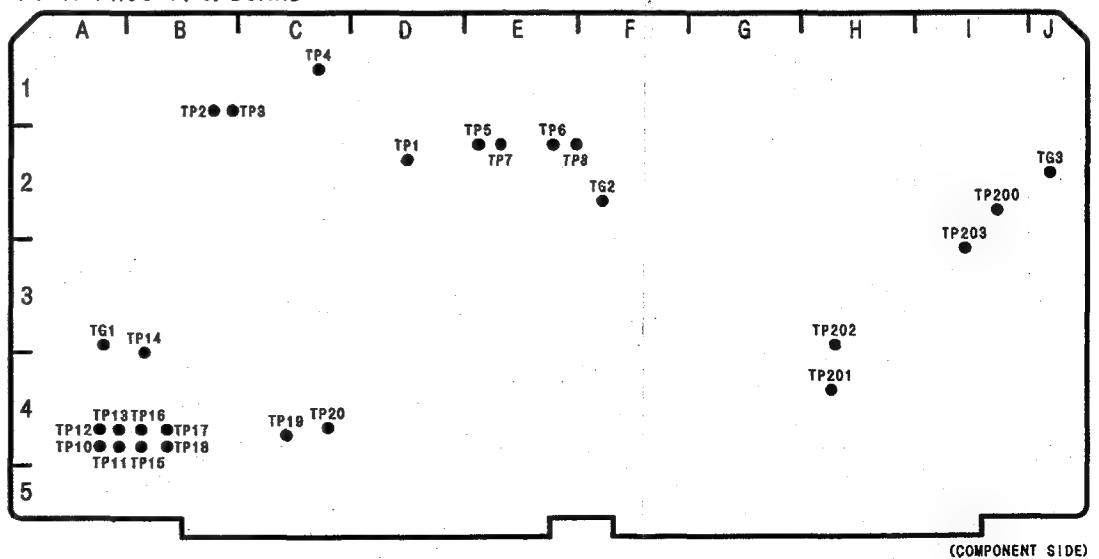
F5 REC PB P. C. BOARD



F6 V IN P. C. BOARD



F7 A PROC P. C. BOARD



[illegible]

REF. NO. 5000 SERIES

(COMPONENT SIDE)

# SECTION 5

## EXPLODED VIEWS & REPLACEMENT PARTS LIST

**Note:**

1. \*Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS ( $\mu$ F), P= $\mu$ F.
3. The P.C. Board units marked with "■" shown below the main assembled parts.
4. The parts marked with © on the exploded view show the electric parts.
5. **IMPORTANT SAFETY NOTICE**  
Components identified with the mark <I> have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.  
After the discontinuation of this assembly in production, it will no longer be available.

<<Abbreviations for part>>

<NAME>

<DESCRIPTIONS>

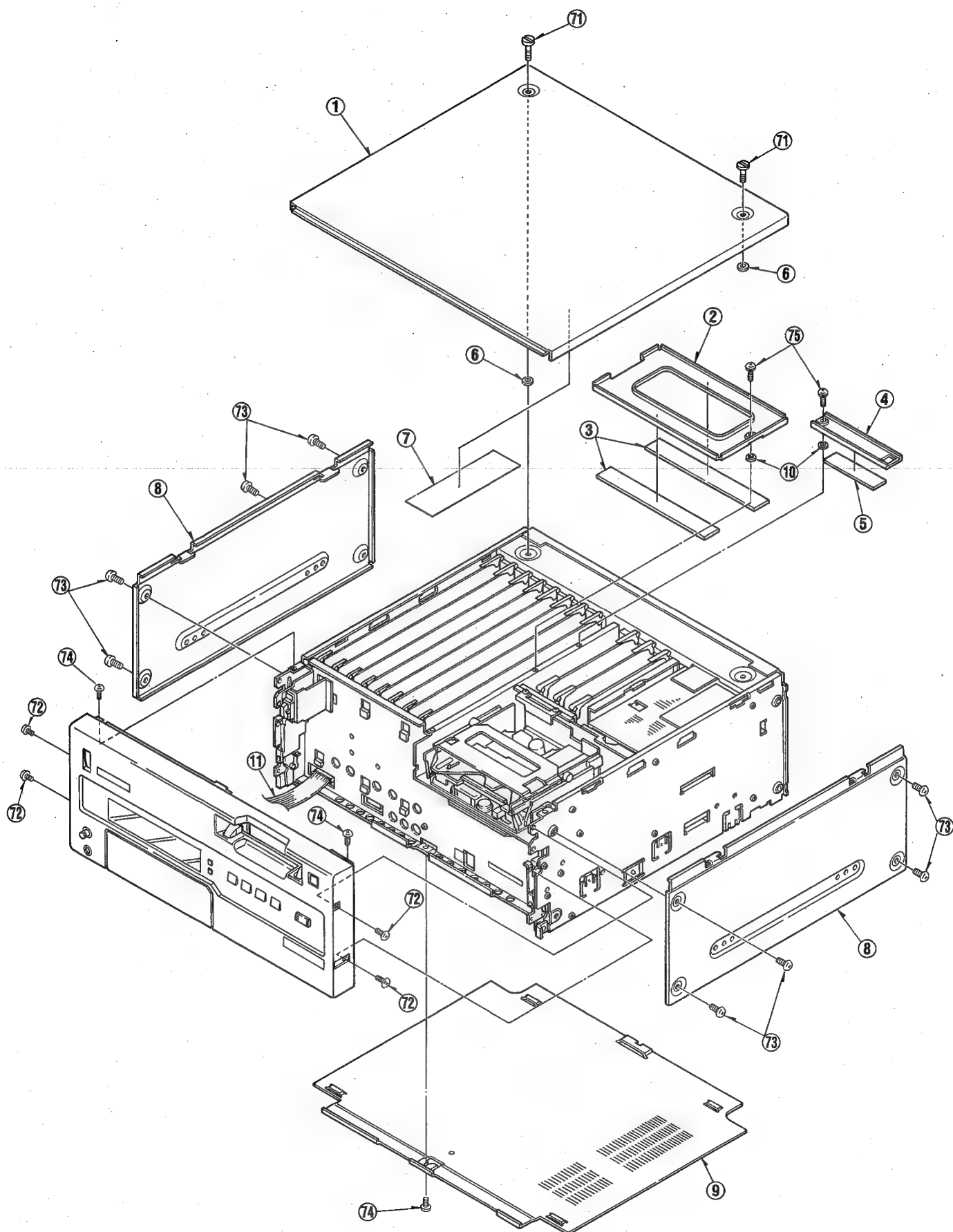
C. CAPACITOR	:	CERAMIC CAPACITOR
C. CAPACITOR CH	:	CERAMIC CHIP CAPACITOR
E. CAPACITOR	:	ELECTROLYTIC CAPACITOR
G. CAPACITOR	:	GLASS CAPACITOR
M. CAPACITOR	:	MICA CAPACITOR
P. CAPACITOR	:	PLASTIC FILM CAPACITOR
S. CAPACITOR	:	SEMI-CONDUCTOR CAPACITOR
T. CAPACITOR	:	TANTALUM CAPACITOR
TRIMMER	:	TRIMMER
C. RESISTOR	:	CARBON RESISTOR
F. RESISTOR	:	FUSE RESISTOR
M. RESISTOR	:	METAL OXIDE RESISTOR
M. RESISTOR CH	:	METAL OXIDE CHIP RESISTOR
S. RESISTOR	:	SOLID RESISTOR
V. RESISTOR	:	VARIABLE RESISTOR
W. RESISTOR	:	WIRE WOUND RESISTOR
COMBI. TR-R	:	TRANSISTOR-RESISTOR COMBINATION PARTS
COMBI. R-R	:	RESISTOR-RESISTOR COMBINATION PARTS
COMBI. C-R	:	CAPACITOR-RESISTOR COMBINATION PARTS
COMBI. C-R-R	:	CAPACITOR-RESISTOR-COIL COMBINATION PARTS
P.C. BOARD	:	PRINTED CIRCUIT BOARD
W/COMPONENT	:	WITH COMPONENT



## CONTENTS

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# CASING PARTS ASSEMBLY



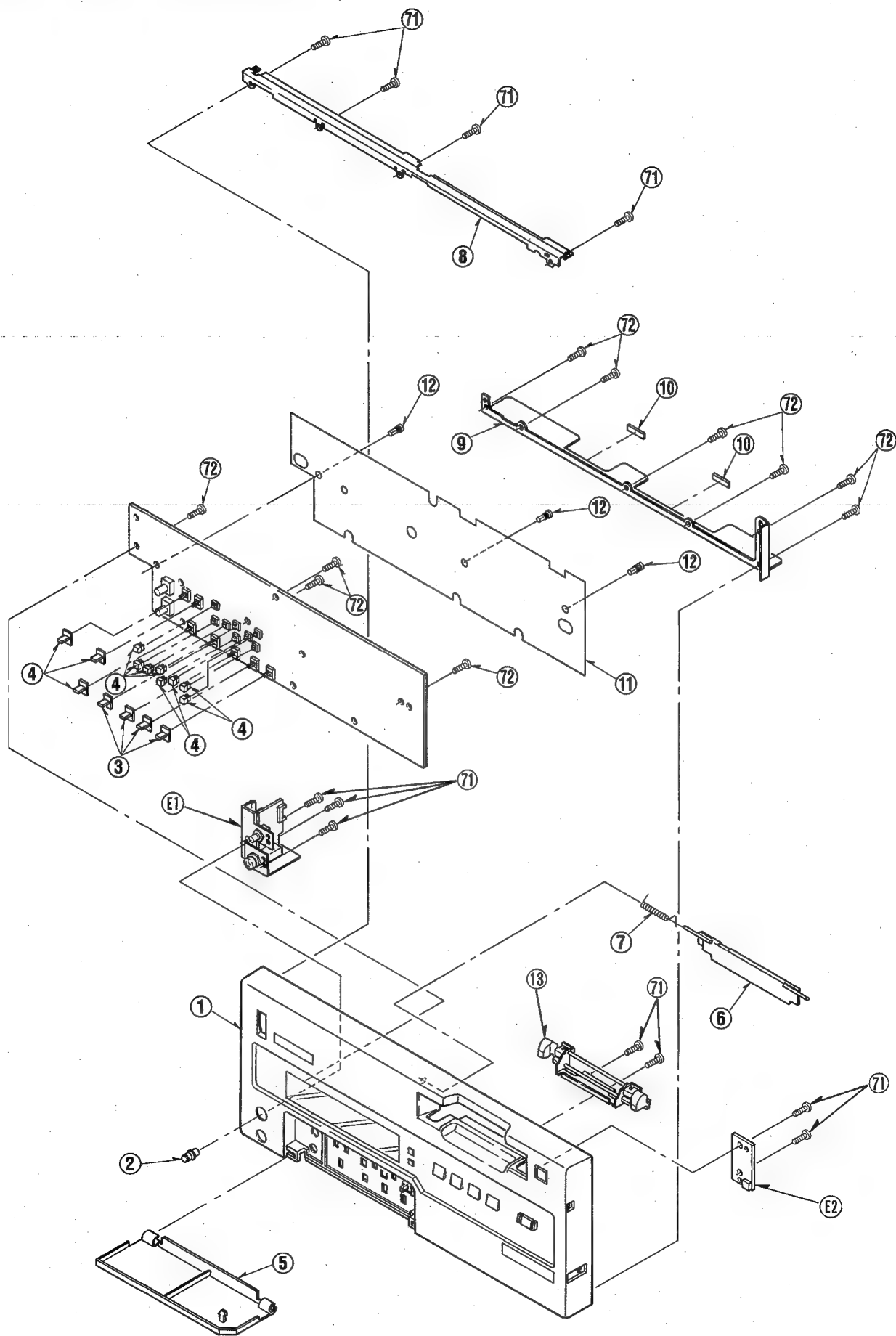


## MECHANICAL REPLACEMENT PARTS LIST

### CASING PARTS ASSEMBLY

[illegible]

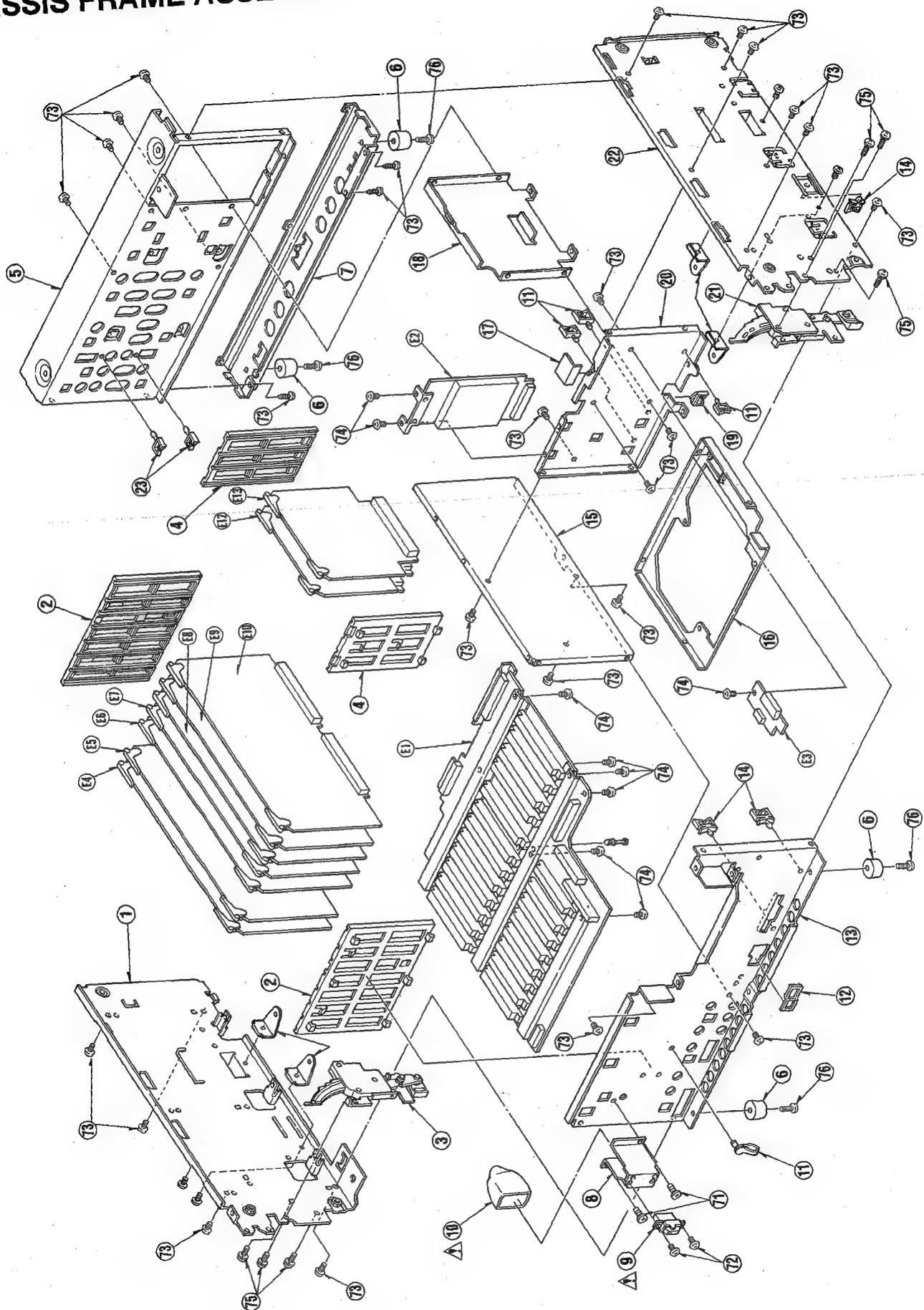
FRONT PANEL ASSEMBLY



# FRONT PANEL ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VYP6406	UPPER FRONT PANEL 1 U.	1	FOR AJ-D650E
1	VYP6408	UPPER FRONT PANEL 1 U.	1	FOR AJ-D640E
2	VQU5334	LEVEL VR KNOB	1	
3	VQU6516	SLIDE SW KNOB	7	
4	VQU7459	TAGT SW KNOB	8	
5	VKN2668	FRONT DOOR	2	
6	VKF2688	BLINDER PANEL	1	
7	VMB2923	BLINDER SPRING	1	
8	VMP4864	SUPPORT ANGLE (UPPER)	1	
9	VMP5240	SUPPORT ANGLE (LOWER)	1	
10	VMT0800	GASKET	2	
11	VMZ2651	INSULATION SHEET	1	
12	VJF0108	SPACER	3	
71	XTV3+88	SCREW	11	
72	XTN4+106	SCREW	10	
E1		HEADPHONE P. C. BOARD	1	
E2		EJECT P. C. BOARD	1	

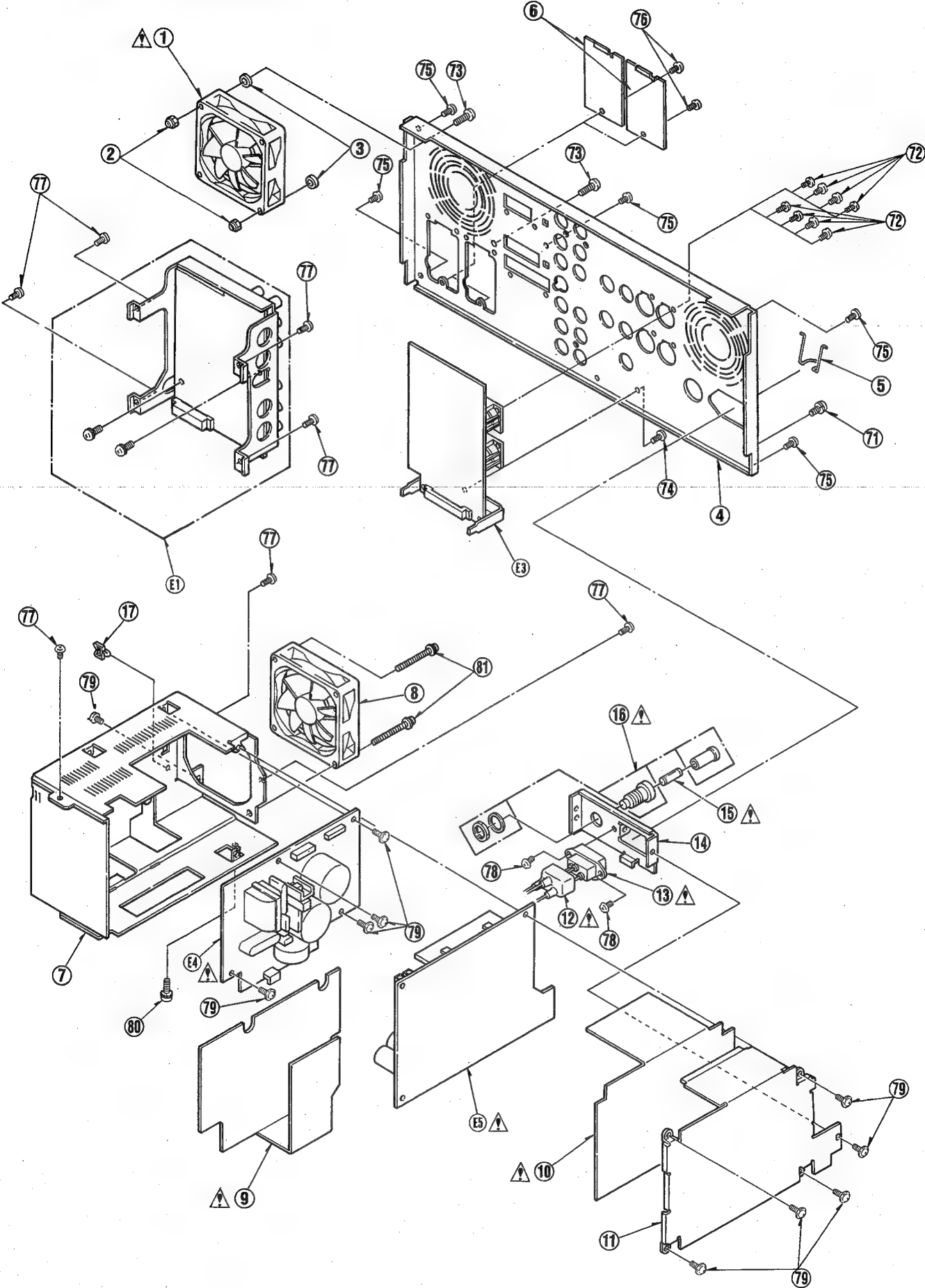
# CHASSIS FRAME ASSEMBLY



## CHASSIS FRAME ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VMP4871	LEFT SIDE FRAME	1	
2	VGQ4011	P. C. BOARD GUIDE RAIL A	2	
4	VGQ4012	P. C. BOARD GUIDE RAIL B	2	
5	VMP4877	REAR FRAME	1	
6	VKA0117	FPPT	4	
7	VMP4878	BOTTOM FRAME	1	
8	VMP4881	SW BRACKET	1	
9	EST15367S	POWER SWITCH	1	
10	VMZ0580	SW COVER	1	
11	VJF0285	M CLAMPER S	4	
12	VJF1259	EDGE HOLDER	1	
13	VMP4876	FRONT FRAME	1	
14	VJF0004	M CLAMPER L	3	
15	VMP4873	CENTER FRAME	1	
16	VXA5550	MECHANISM FRAME U.	1	
17	VMZ1525	FPG BARRIER	1	
18	VMP4874	CENTER SUB FRAME	1	
19	VMP5285	BOTTOM FRAME ANGLE	4	
20	VMP4875	MIDDLE FRAME	1	
22	VMP4872	SIDE FRAME R	1	
23	VJF0384	M CLAMPER M	2	
71	VHD5013	SCREW	2	
72	XTN3+6F	SCREW	2	
73	XTV3+6F	SCREW	27	
74	XTV3+6FR	SCREW	9	
76	XYNV3+K12S	SCREW	4	
E1		MOTHER P. C. BOARD	1	
E2		HEAD BUFF P. C. BOARD	1	
E3		AG HEAD IF P. C. BOARD	1	
E4		F1 SERVO P. C. BOARD	1	
E5		F2 SYSGON P. C. BOARD	1	
E6		F4 V OUT P. C. BOARD	1	
E7		F5 REC PB P. C. BOARD	1	
E8		F6 V IN P. C. BOARD	1	
E9		F7 A PROC P. C. BOARD	1	
E10		F8 ADDA CUE P. C. BOARD	1	
E12		E3 EQ P. C. BOARD	1	
E13		H4 RF AMP P. C. BOARD	1	

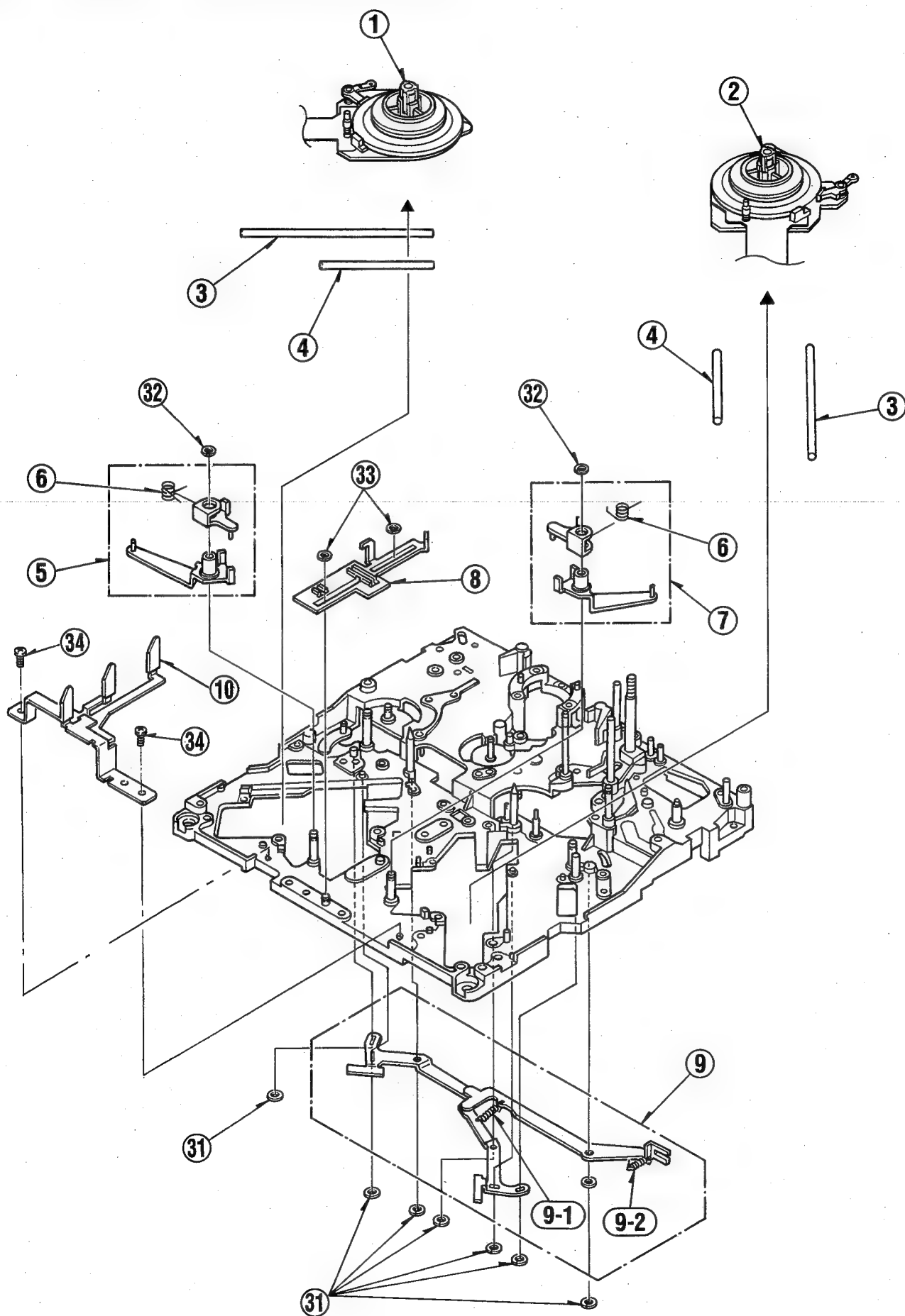
# REAR PANEL ASSEMBLY



## REAR PANEL ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	VRF0190	FAN MOTOR	1	
2	VHN0063	NYLON NUT	2	
3	VMX0835	SPACER	2	
4	VJH0975	JACK PANEL	1	
5	VML2903	AC CORD HOOK	1	
6	VMP5032	OPTION PANEL	2	
7	VSC4387	POWER SUPPLY CASE A	1	
8	VRF0190	FAN MOTOR	1	
9	VMZ2502	SHIELD SHEET A	1	
10	VMZ2503	SHIELD SHEET B	1	
11	VSC4388	POWER SUPPLY CASE B	1	
12	VMZ1252	AC INLET COVER	1	
13	VJP0083	AC INLET	1	
14	VMP4889	AC INLET RACKET	1	
15	XBA1G50NB5	FUSE	1	
16	VJF1005	FUSE HOLDER	1	
17	VJF0285	M CLAMPER S	1	
71	XYE4-EF8	SCREW	1	
72	XSN26+6FZ	SCREW	8	
73	XSN4+35FGS	SCREW	2	
74	XTN26+6FFZ	SCREW	1	
75	XTV3+6F	SCREW	5	
76	XTV3+6FFZ	SCREW	1	
77	XTV3+6FR	SCREW	7	
78	XSB3+6FZ	SCREW	2	
79	XTW3+8LR	SCREW	10	
80	XYE4-EF8	SCREW	1	
81	XYNV4+K35FGS	SCREW	2	
E1		V/S JACK P.C. BOARD	1	
E3		A JACK P.C. BOARD	1	
E4		POWER (1) P.C. BOARD	1	
E5		POWER (2) P.C. BOARD	1	

# MECHANICAL CHASSIS ASSEMBLY (1)

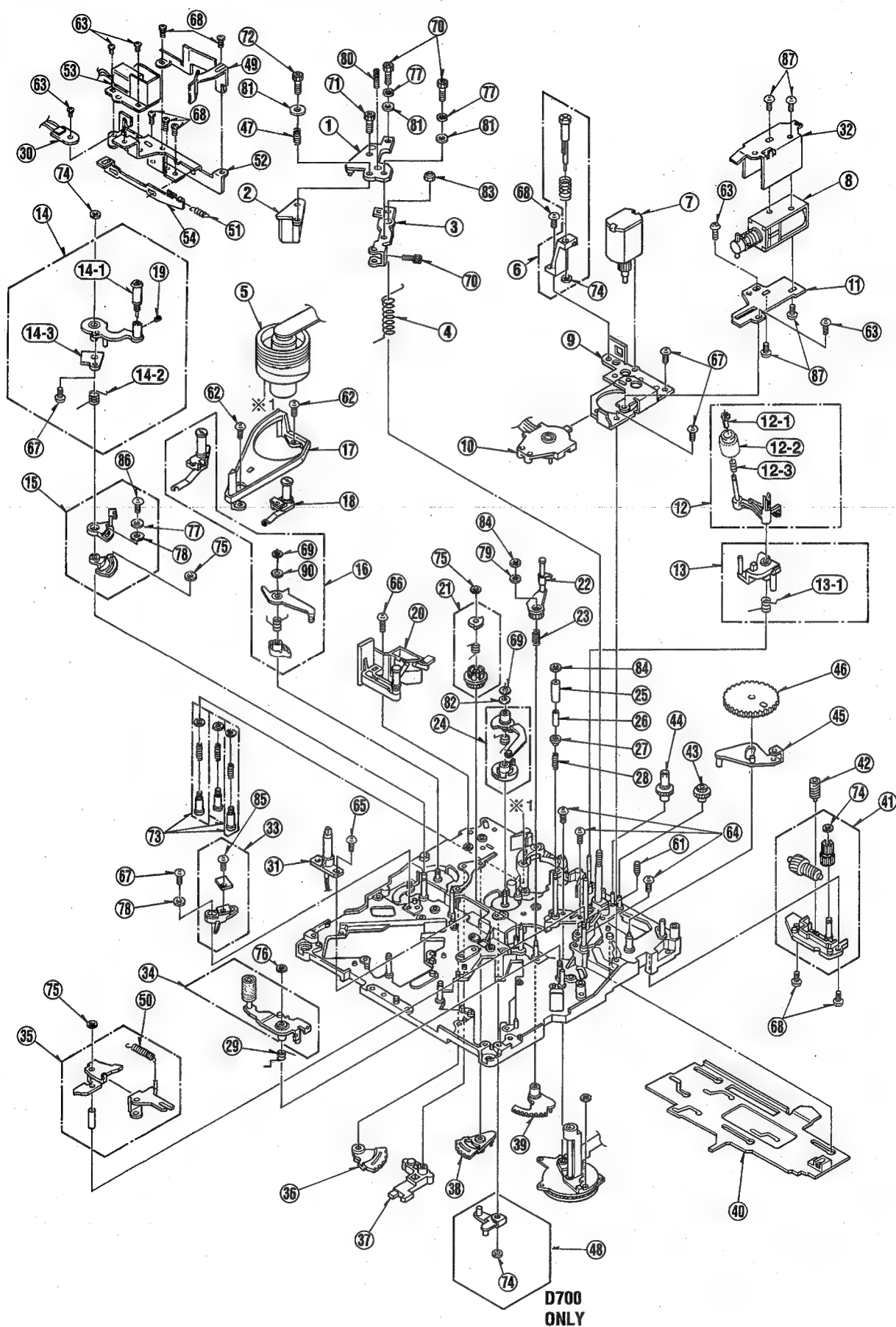




## MECHANICAL CHASSIS ASSEMBLY (1)

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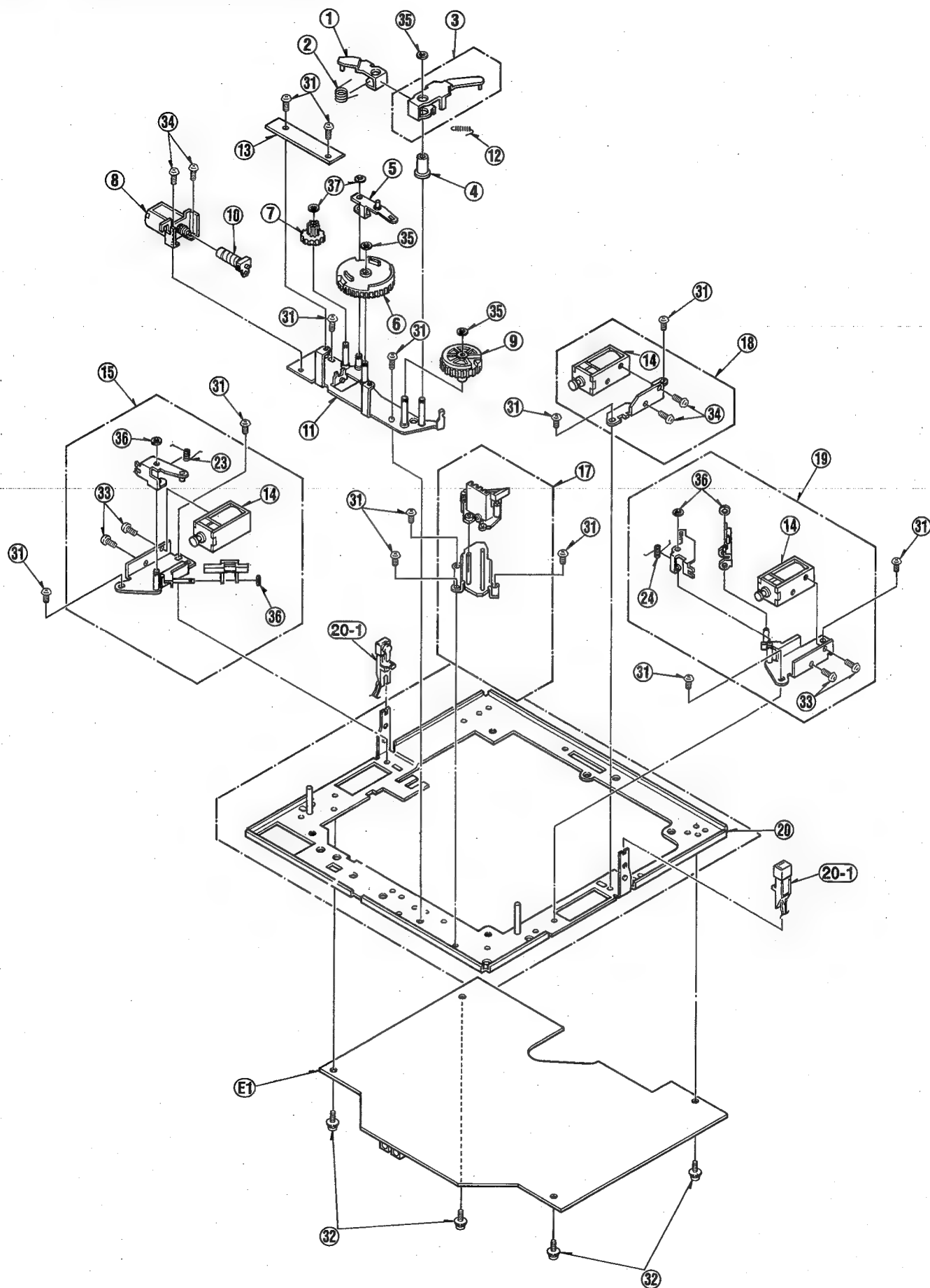
# MECHANICAL CHASSIS ASSEMBLY (2)



## MECHANICAL CHASSIS ASSEMBLY (2)

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VXA5554	A/C HEAD BASE (1)U	1		74	VMX0967	WASHER	5	
2	VBR0301	A/C HEAD	1		75	VMX1061	CUT WASHER	3	
3	VXA5555	A/C HEAD BASE (2)U	1		76	VMX1079	WASHER	1	
4	VMB2935	A/C HEAD HIGHT SPRING	1		77	XWA2B	WASHER	3	
5	VEG1337	CYLINDER UNIT	1		78	XWE2	WASHER	1	
6	VMD2581	EMARGENCY SHAFT HOLDER	1		79	XWE16VW	WASHER	1	
7	VEM0584	LOADING MOTOR (1) U	1		80	XXE2AGFP	HEX. SCREW	1	
8	VSJ0217	PINCH SOLENOID	1		81	XWG2	WASHER	3	
9	VXA5561	MOTOR ANGLE U	1		82	XWGV15Z32G	WASHER	1	
10	VES0814	MODE SW U	1		83	VH00045	NYLON NUT	1	
11	VMA9376	PINCH SOLENOID BASE	1		84	VHNO312	T3 POST NUT	2	
12	VXL2693	CLEANING ARM U	1		85	XQN2+AG4	SCREW	1	
12-1	VMX2150	ROLLER HOLDER	1		86	XQN2+AJ5	SCREW	1	
12-2	VXP1326	CLEANER ROLLER UNIT	1		87	XQN2+A15	SCREW	4	
12-3	VMB1677	P9 POST SPRING	1						
13	VXL2707	T2 ARM U.	1						
13-1	VMB2932	T2 ARM SPRING	1						
14	VXL2734	TENSION ARM U.	1						
14-1	VXP1761	TENSION ROLLER	1						
14-2	VMB2931	TENSION LEG SPRING	1						
14-3	VXA5853	MAGNET HOLDER U	1						
15	VXA5791	TENSION REG. SPRING HOOK U	1						
16	VXL2709	S LOADING ARM U	1						
17	VMD2533	LOADING RAIL	1						
18	VXA5852	T1 BOAT U	1						
19	VHD0561	HEX. SCREW	1						
20	VXA5553	S POST BASE U	1						
21	VXP1683	T4 CONNECTION GEAR U	1						
22	VXL2687	T4 ARM U.	1						
23	VMB2950	T4 THRUST SPRING	1						
24	VXL2711	T LOADING ARM U.	1						
25	VMS5906	T3 UPPER FRANGE	1						
26	VMS5905	T3 SLEAVE	1						
27	VMS5904	T3 LOWER FRANGE	1						
28	VMB2929	T3 SPRING	1						
29	VMB2933	PINCH RELEASE SPRING	1						
30	VEK7716	DEW SENSOR	1						
31	VEK7691	LED HOLDER U.	1						
32	VMA9411	PINCH SOLENOID ANGLE	1						
33	VXA5820	TENSION SENSOR U.	1						
34	VXL2684	PINCH ARM U.	1						
35	VXL2588	PINCH GUIDE ARM U	1						
36	VXA5570	T SECTOR GEAR U	1						
37	VXL2582	TENSION REG. GUIDE ARM U	1						
38	VXA5567	S SECTOR GEAR U	1						
39	VXA5564	T4 SECTOR GEAR U	1						
40	VXA5563	MAIN ROD U	1						
41	VXA5627	THRUST SHIFT HOLDER U	1						
42	VDG1166	MOTOR WORM GEAR	1						
43	VDG1187	MOTOR EMARGENCY GEAR II	1						
44	VDG1186	MOTOR EMARGENCY GEAR A	1						
45	VXL2591	MAIN CAM ARM U	1						
46	VDG1168	MAIN CAM GEAR	1						
47	VMB2937	A/C HEAD ADJUST SPRING	1						
48	VXL2600	EJECT ARM U	1						
49	VXA5770	T1 GUIDE U.	1						
50	VMB2934	SPRING	1						
51	VMB3051	CLEANER RETURN SPRING	1						
52	VXA5768	CLEANER BASE 1 U.	1						
53	VXA5769	CLEANER SOLENOID U.	1						
54	VMM0415	CLEANER INTERLOCK	1						
61	VHD0356	SCREW	1						
62	XQN2+A3	SCREW	2						
63	XQN2+A2	SCREW	5						
64	XQN2+A35FZ	SCREW	3						
65	XQN2+AM2	SCREW	1						
66	XQN2+AM4	SCREW	1						
67	XQN2+CF3	SCREW	4						
68	XQN2+CF4	SCREW	8						
69	XUC12FP	E-RING	2						
70	XVE2B4FZ	SCREW	3						
71	XVE2B6FP	SCREW	1						
72	XVE2B12FP	SCREW	1						
73	VXQ0439	CYLINDER SCREW U.	3						

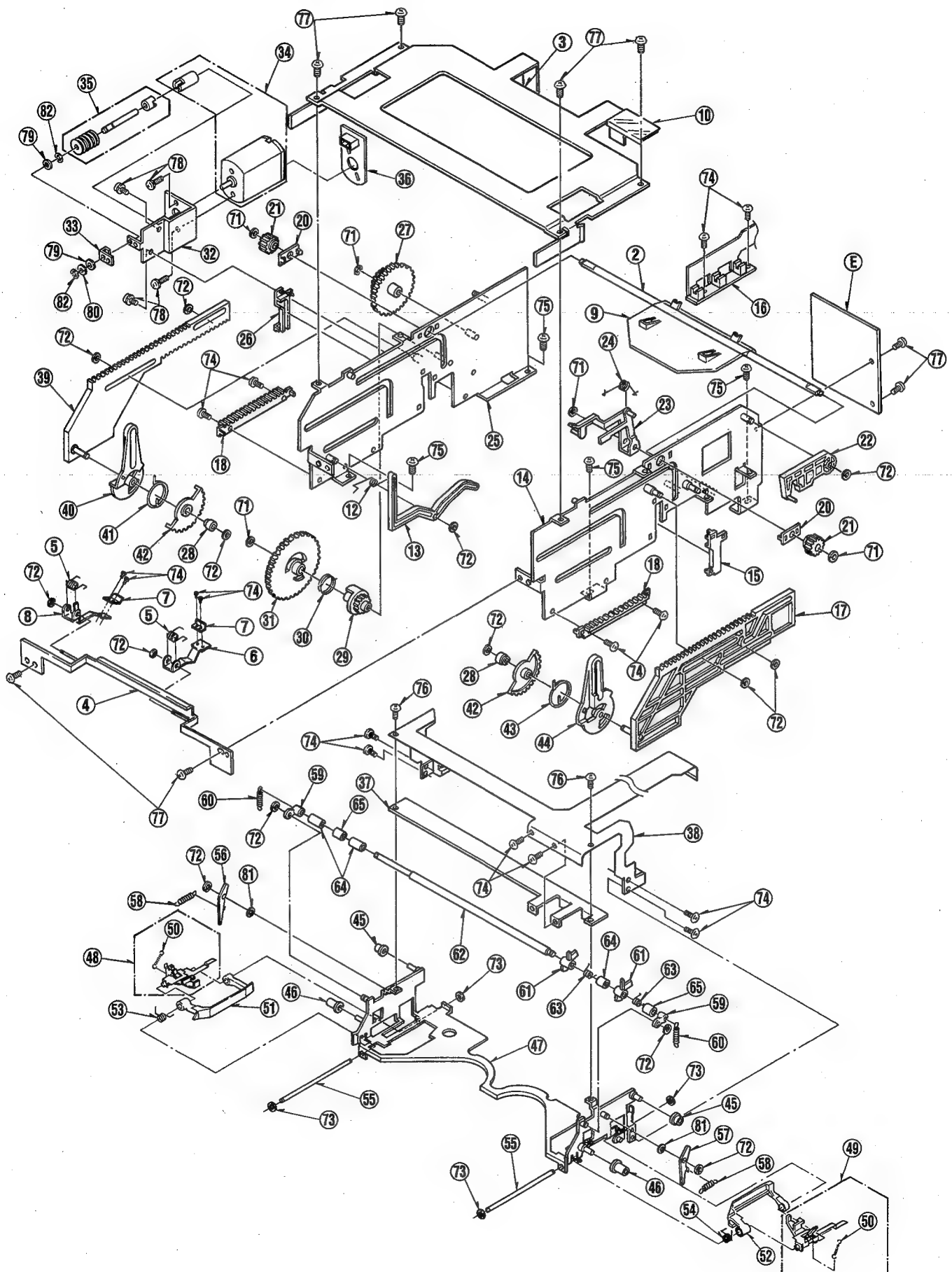
# SUB CHASSIS ASSEMBLY



## SUB CHASSIS ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VXL2656	MIG DRIVE ARM (A) U.	1	
2	VMB3018	MIG DRIVE SPRING	1	
3	VXL2657	MIG DRIVE ARM (B) U.	1	
4	VDB1429	MIG DRIVE ARM BOSS	1	
5	VXL2613	REEL DRIVE ARM U.	1	
6	VDG1192	REEL DRIVE CAM GEAR	1	
7	VDG1193	REEL DRIVE WORM WHEEL	1	
8	VEM0585	REEL DRIVE MOTOR U.	1	
9	VDG1211	MIG GENEVA GEAR	1	
10	VXP1698	REEL DRIVE WORM U.	1	
11	VXA5628	MOTOR BASE U.	1	
12	VMB3019	MIG DRIVE RETURN SPRING	1	
13	VEK7726	REEL DRIVE SENSOR	1	
14	VSJ0216	BRAKE SOLENOID	3	
15	VXA5575	S-BRAKE SOLENOID BASE U.	1	
16	VXA5580	L-M BRAKE RELEASE ANGLE U.	1	
17	VXA5577	MIG RAIL U.	1	
18	VXA5579	M STOPPER SOLENOID U.	1	
19	VXA5576	T-BRAKE SOLENOID BASE U.	1	
20	VXK1324	SUB CHASSIS	1	
20-1	VEK7692	SENSOR HOLDER U.	2	
21	VMB2945	M RELEASE SPRING	1	
22	VMB2960	L RELEASE SPRING	1	
23	VMB2957	S BRAKE SPRING	1	
24	VMB2987	T BRAKE SPRING	1	
28	VSJ0216	BRAKE SOLENOID	1	
31	XQN2+CF3	SCREW	14	
32	XYN3+F5	SCREW	4	
33	XQN2+A14	SCREW	4	
34	XQN2+A2	SCREW	4	
35	VMX1079	WASHER	3	
36	VMX0967	WASHER	4	
37	VMX1548	CUT WASHER	2	
E1		MECH I/F P. C. BOARD	1	

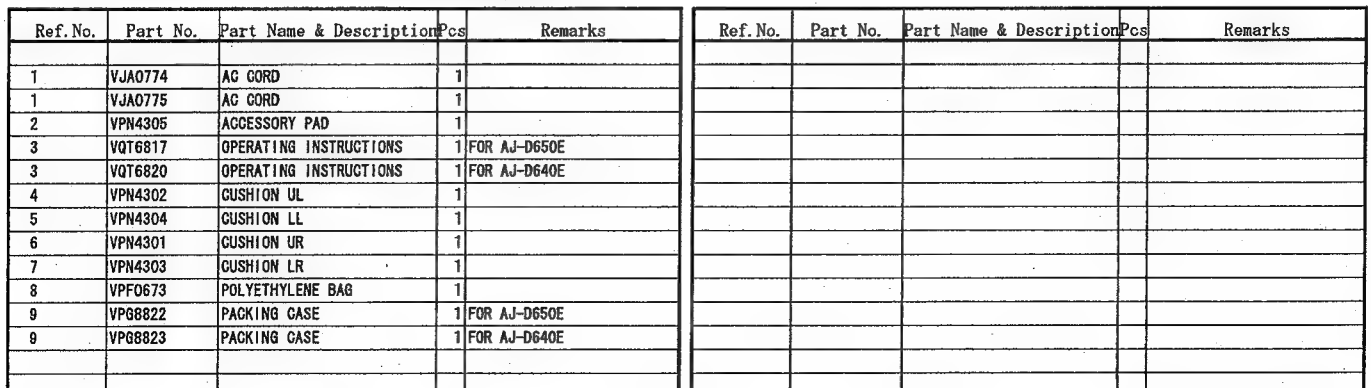
# CASSETTE COMPARTMENT ASSEMBLY



# CASSETTE COMPARTMENT ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VXA5850	CASSETTE COMPARTMENT U	1		82	XUC2FP	E-RING	2	
2	VMS5865	MAIN SHAFT	1						
3	VMA9536	TOP PLATE	1						
4	VXA5761	FRONT GUIDE 1 U	1						
5	VMB3075	M GUIDE SPRING	2						
6	VML3191	M GUIDE LEVER R	1						
7	VML3192	M FRONT GUIDE	2						
8	VML3190	M GUIDE LEVER L	1						
9	VML3196	CASSETTE PROTECT PLATE	1						
10	VMZ2628	CABLE PROTECT SHEET	1						
12	VMB2926	OPENER SPRING	1						
13	VML2A50	BLINDER PANEL OPENER	1						
14	VXA5764	SIDE PLATE R U	1						
15	VML2A50	SUB RAIL (R)	1						
16	VEK7695	SIDE FLEXIBLE	1						
17	VXA5766	MAIN RACK U	1						
18	VDG1156	WIPER RACK	2						
20	VDB1395	MAIN SHAFT ANGLE	2						
21	VDG1155	INTERLOCK GEAR	2						
22	VML3193	OPENER DRIVE ARM	1						
23	VXL2692	OPENER ANGLE U.	1						
24	VMB2979	SPRING	1						
25	VXA5762	SIDE PLATE L U.	1						
26	VML2A48	SUB RAIL (L)	1						
27	VDG1158	INTERMEDIATE GEAR	1						
28	VDP1643	WIPER ROLLER	2						
29	VDG1237	CLUTCH GEAR	1						
30	VMB2980	CLUTCH SPRING	1						
31	VDG1236	WORM WHEEL	1						
32	VMA9421	MOTOR ANGLE	1						
33	VMD2535	THRUST HOLDER	1						
34	VXA5597	MOTOR U.	1						
35	VXP1687	WORM SHAFT U.	1						
36	VEK7793	MOTOR C.B.A.	1						
37	VMA9668	HOLDER PLATE	1						
38	VEK7715	HOLDER FLEXIBLE U.	1						
39	VXA5596	MAIN RACK (L) U.	1						
40	VML2A49	WIPER ARM L	1						
41	VMB2925	WIPER SPRING L	1						
42	VDG1163	WIPER GEAR	2						
43	VMB3013	WIPER SPRING R	1						
44	VML2A52	WIPER ARM R	1						
45	VDP1642	CASSETTE GUIDE ROLLER (2)	2						
46	VDP1641	CASSETTE GUIDE ROLLER (1)	2						
47	VXA5757	CASSETTE HOLDER 1 U	1						
48	VXA5758	KICK OFF ROD L U	1						
49	VXA5759	KICK OFF ROD R U	1						
50	VMB3064	SLIDE SPRING	2						
51	VML3194	SIDE GUIDE L	1						
52	VML3195	SIDE GUIDE R	1						
53	VMB3061	SIDE GUIDE SPRING L	1						
54	VMB3062	SIDE GUIDE SPRING R	1						
55	VMS6108	KICK OFF ROD SHAFT	2						
56	VML2A54	KICK OFF ARM L	1						
57	VML2A55	KICK OFF ARM R	1						
58	VMB2928	KICK OFF SPRING	2						
59	VML2A53	CASSETTE HOLDER ARM	2						
60	VMB2927	CASSETTE HOLDER SPRING	2						
61	VMX2525	HL DETECTION ROLLER	2						
62	VMS5882	CASSETTE HOLDER SHAFT	1						
63	VMB3059	HL DETECTION SPRING	2						
64	VMX2559	CASSETTE PRESSURE ROLLER (2)	3						
65	VMX2524	CASSETTE PRESSURE ROLLER (1)	2						
71	VMX0653	GUT WASHER	5						
72	VMX0967	WASHER	14						
73	VMX1061	GUT WASHER	4						
74	XQN16+A2	SCREW	16						
75	XQN2+CF3	SCREW	4						
76	XQN16+A25	SCREW	2						
77	XQN2+A3	SCREW	8						
78	XYN2+C3	SCREW	4						
79	XWGV2D5G	WASHER	2						
80	XWGV2Y4G	WASHER	1						
81	XWGV2Z5G	WASHER	2						

## PACKING PARTS ASSEMBLY





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OTHER

## ELECTRICAL REPLACEMENT PARTS LIST

[illegible]

## VEP80A11A / VEP82105B

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	■ VEP80A11A	MOTHER C.B.A.	1	(RTL)	C165	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
					C166, 67	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2	
					C168, 69	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
P001-16	VJS3814	CONNECTOR (FEMALE)	16		C170, 71	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	2	
P019, 20	VJS3814	CONNECTOR (FEMALE)	2		C172	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
P021	VJP3095	CONNECTOR (MALE)	1		C173, 74	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2	
P022	VJP3091	CONNECTOR (MALE)	1		C175	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
P023	VJP2891A030	CONNECTOR (MALE)	1		C200	ECUM1H472KBN	G. CAPACITOR CH 50V 4700P	1	
P024	VJP3418A080	CONNECTOR (MALE)	1		C202, 03	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
P025	VJP2824B003	CONNECTOR (MALE)	1		C204	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
P026	VJP2824B006	CONNECTOR (MALE)	6P		C205-07	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	3	
P027	VJP2824B008	CONNECTOR (MALE)	1		C208-10	ECUM1H472KBN	G. CAPACITOR CH 50V 4700P	3	
P029, 30	VJS3375B060	CONNECTOR (FEMALE)	2		C211	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
P031	VJP3080	CONNECTOR (MALE)	1		C212, 13	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
P032	VJP1230T	CONNECTOR (MALE)	3P		C214	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
P033	VJP3375A060	CONNECTOR (MALE)	1		C215, 16	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	2	
P036	VJP3090	CONNECTOR (MALE)	1		C218	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
		MISCELLANEOUS			C230-32	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	3	
					C233-36	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	4	
	VKG0392	SPACER	2		C237	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
	VMP4868	XLR GUIDE ANGLE (B)	1		C238	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
	VMP4886	MOTHER ANGLE (A)	1		C239	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
	VMP4887	MOTHER ANGLE (B)	1		C240-49	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	10	
	VMP4888	MOTHER ANGLE (C)	1		C250, 51	ECUM1H120JCN	G. CAPACITOR CH 50V 12P	2	
	XYE3+EF8FZ	SCREW	10		C260, 61	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
	XTV26+6F	SCREW	2		C263-70	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	8	
					C280-86	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	7	
					G300-02	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	3	
					C303	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
	■ VEP82105B	F1 SERVO C.B.A.	1	(RTL)	C304-08	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	5	
					C309	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
					C320, 21	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
G1, G2	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2		C322	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	1	
G3	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1		C323	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G4	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1		C324	ECUM1H682KBN	G. CAPACITOR CH 50V 6800P	1	
G5, G6	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	2		C325, 26	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
G7	ECUM1H222KBN	G. CAPACITOR CH 50V 2200P	1		C327, 28	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	2	
G8, G9	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2		C329	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G10	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	1		C330	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	1	
G11, 12	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2		C331-34	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	4	
G13	ECUM1H101JCN	G. CAPACITOR CH 50V 100P	1		C335, 36	ECUM1H080DCN	G. CAPACITOR CH 50V 8P	2	
G14	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C337	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G15	ECUM1H222KBN	G. CAPACITOR CH 50V 2200P	1		C340	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	1	
G30-34	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	5		C341	ECAT1EXLV101X	E. CAPACITOR 25V 100U	1	
G35	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1		C342, 43	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
G36-38	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	3		C344	ECUM1H682KBN	G. CAPACITOR CH 50V 6800P	1	
G39	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		C345	ECAT1EXLV101X	E. CAPACITOR 25V 100U	1	
G40, 41	ECUM1H333KBN	G. CAPACITOR CH 50V 0.033U	2		C346-48	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	3	
G42, 43	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2		C349-53	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	5	
G60, 61	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2		C354	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	1	
G63-74	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	12		C355	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G80, 81	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	2		C356	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	1	
G82	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C357	ECUM1H682KBN	G. CAPACITOR CH 50V 6800P	1	
G83	ECUM1H100DCN	G. CAPACITOR CH 50V 10P	1		C358	ECAT1EXLV101X	E. CAPACITOR 25V 100U	1	
G84	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C359	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	1	
G85, 86	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2		C360	ECAT1EXLV101X	E. CAPACITOR 25V 100U	1	
G87	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C361	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	1	
G88	ECUM1H100DCN	G. CAPACITOR CH 50V 10P	1		C362	ECAT1EXLV101X	E. CAPACITOR 25V 100U	1	
G89, 90	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	2		C380, 81	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
G91	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C382	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G92, 93	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2		C383	ECUM1H682KBN	G. CAPACITOR CH 50V 6800P	1	
G94, 95	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2		C384	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G120, 21	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	2		C385, 86	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
G123	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C387	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G124, 25	ECUM1H100DCN	G. CAPACITOR CH 50V 10P	2		C388	ECUM1H682KBN	G. CAPACITOR CH 50V 6800P	1	
G126	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C389	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G127, 28	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2		C390	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G129, 30	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2		C400	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G131, 32	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	2		C401-03	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	3	
G133, 34	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2		C404-06	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	3	
G135	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C407	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G160, 61	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	2		C408	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G162	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		C409-11	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	3	
G163, 64	ECUM1H100DCN	G. CAPACITOR CH 50V 10P	2		C412, 13	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	

F1

## VEP82105B

F1

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C414	ECUM1G105KBM	C. CAPACITOR CH 16V 1U	1	
C415	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C416-18	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
C419	ECEV1HV4R7Q	E. CAPACITOR CH 50V 4.7U	1	
C420	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C421	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C422	ECUM1H331JGN	C. CAPACITOR CH 50V 330P	1	
C423	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C424-27	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	4	
C428, 29	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C430	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C431	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C432-34	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C450	ECUM1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C451, 52	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C453, 54	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	2	
C455	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C456	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C457	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C458, 59	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	2	
C460	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C461	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C462	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C463	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C464	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C465	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C466	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C467	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C468, 69	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C470	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C471	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C472	ECUM1G474KBM	C. CAPACITOR CH 16V 0.47U	1	
C473	ECUM1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C474, 75	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	2	
C476	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C477, 78	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	2	
C479	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C480	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C481	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C482	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C483	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C484	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C485	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C486	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C487	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1	
C488	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C489, 90	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C491	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C492	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C493	ECUM1G474KBM	C. CAPACITOR CH 16V 0.47U	1	
C510	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C511	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C512, 13	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C514	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C515	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C516	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
C517-19	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
C520	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
C521	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C522, 23	ECEV1HV010Q	E. CAPACITOR CH 50V 1U	2	
C524	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
C525	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C526	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
C527, 28	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C529	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
C530-32	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
C533	ECEV1AV330Q	E. CAPACITOR CH 10V 33U	1	
C534	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C535	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
C536	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C537	ECEV1HV010Q	E. CAPACITOR CH 50V 1U	1	
C538	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
C539	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C600, 01	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D1, D2	MA157	DIODE	2	
D3, D4	MA8075-H	DIODE	2	
D30, 31	MA8030	DIODE	2	
D32	MA8047-H	DIODE	1	
D33-35	MA152K	DIODE	3	
D80-83	MA157	DIODE	4	
D120-23	MA157	DIODE	4	
D160-63	MA157	DIODE	4	
D200, 01	MA152K	DIODE	2	
D202	MA8047-H	DIODE	1	
D203	MA152K	DIODE	1	
D204, 05	MA8047-H	DIODE	2	
D206-09	MA152K	DIODE	4	
D300-02	LN1251CAL	DIODE	3	
D320, 21	MA157	DIODE	2	
D340	MA728	DIODE	1	
D341	MA736	DIODE	1	
D342	MA728	DIODE	1	
D343	MA736	DIODE	1	
D344	MA8039-L	DIODE	1	
D380	MA728	DIODE	1	
D381	MA736	DIODE	1	
D382	MA728	DIODE	1	
D383	MA736	DIODE	1	
D400-05	MA738	DIODE	6	
D406, 07	MA8047-H	DIODE	2	
D408-13	MA738	DIODE	6	
D450	MA152K	DIODE	1	
D451-56	MA738	DIODE	6	
D457	MA152K	DIODE	1	
D458-63	MA738	DIODE	6	
D510-13	MA701A	DIODE	4	
D514-19	MA704A	DIODE	6	
FL320, 21	VLF1016A470	FILTER	2	
FL510-15	VLF1016A470	FILTER	6	
IC1	TC7WU04F	IC	1	
IC2	UPC408262	IC	1	
IC3	MC14052BF	IC	1	
IC30	UPC408262	IC	1	
IC31	NJM4580ED	IC	1	
IC32	AD633JR	IC	1	
IC33	UPC408262	IC	1	
IC34	MC74HC74AF	IC	1	
IC35	TC7W00F	IC	1	
IC60, 61	MC74HC08AF	IC	2	
IC63-66	MC74HC74AF	IC	4	
IC67	MC74HC157AF	IC	1	
IC68	T74HC191AF	IC	1	
IC69	MC74HC32AF	IC	1	
IC70	MC74HC86F	IC	1	
IC71	MC74HC04AF	IC	1	
IC72	MC74HC74AF	IC	1	
IC73	MC74HC11F	IC	1	
IC74	MC74HC27F	IC	1	
IC80, 81	UPC474162	IC	2	
IC82	NJM2901M	IC	1	
IC83	MC74HC4050F	IC	1	
IC120, 21	UPC474162	IC	2	
IC160	NJM2901M	IC	1	
IC161, 62	UPC474162	IC	2	
IC200	ADG408BR	IC	1	
IC201	AD7896AR	IC	1	
IC202	AD7943BR	IC	1	
IC203	SMP08FS	IC	1	
IC204	MC74HC244AF	IC	1	
IC205	UPC408262	IC	1	
IC207	UPC408262	IC	1	
IC230	MC68332ACFG2	IC	1	
IC231	TL7705CPB	IC	1	
IC235	VS122808	IC	1	
IC236, 37	74AC74SJ	IC	2	
IC238, 39	TC7WU04F	IC	2	
IC240	74AC08SJ	IC	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC241	MC74HC244AF	IC	1		QR120	UN2213	TRANSISTOR-RESISTOR	1	
IC260, 61	Y7C18525SG	IC	2		QR121	UN2113	TRANSISTOR-RESISTOR	1	
IC262	IDT71321A55	IC	1		QR122	UN2213	TRANSISTOR-RESISTOR	1	
IC263, 64	SN74S1051NS	IC	2		QR123	UN2113	TRANSISTOR-RESISTOR	1	
IC265	MC74HC175F	IC	1		QR124	UN2213	TRANSISTOR-RESISTOR	1	
IC266	MC74HC164F	IC	1		QR160	UN2213	TRANSISTOR-RESISTOR	1	
IC267	MC74HC273AF	IC	1		QR161	UN2113	TRANSISTOR-RESISTOR	1	
IC268	MC74HC74AF	IC	1		QR162	UN2213	TRANSISTOR-RESISTOR	1	
IC269	MC74HC86F	IC	1		QR163	UN2113	TRANSISTOR-RESISTOR	1	
IC280	MC74HCT244AF	IC	1		QR164	UN2213	TRANSISTOR-RESISTOR	1	
IC281	MC74HC151F	IC	1		QR340, 41	UN2111	TRANSISTOR-RESISTOR	2	
IC282	SLA909SF1G	IC	1		QR400	UN2213	TRANSISTOR-RESISTOR	1	
IC300	TE7751	IC	1		QR401	UN2113	TRANSISTOR-RESISTOR	1	
IC301, 02	MC74HC244AF	IC	2		QR600	UN2217	TRANSISTOR-RESISTOR	1	
IC303	T74VHCT244F	IC	1		QR601	UN2211	TRANSISTOR-RESISTOR	1	
IC304, 05	MC74HC244AF	IC	2						
IC320	SG371025AVFU	IC	1		R1-R3	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	3	
IC321	MC14053BF	IC	1		R4	VRE0034E471	M. RESISTOR CH 1/10W 470	1	
IC322	MC74HC574AF	IC	1		R5	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
IC323	TC7WU04F	IC	1		R6	VRE0034E471	M. RESISTOR CH 1/10W 470	1	
IC324	T74VHCU04F	IC	1		R7	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
IC325	74AC74SJ	IC	1		R8	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
IC326	MC74HC74AF	IC	1		R0, 10	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	2	
IC340	TL1451CNS	IC	1		R11	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
IC341	UPC39302	IC	1		R12, 13	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
IC342	NJM4580ED	IC	1		R14	ERJ6GEYJ274	M. RESISTOR CH 1/10W 270K	1	
IC400, 01	AN3890FBS	IC	2		R15	ERJ6GEY0823	M. RESISTOR CH 1/10W 82K	1	
IC402	NJM4580ED	IC	1		R16	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
IC403	NJM2903M	IC	1		R17	ERJ6GEY0272	M. RESISTOR CH 1/10W 2.7K	1	
IC404	NJM4580ED	IC	1		R18	ERJ6GEY0823	M. RESISTOR CH 1/10W 82K	1	
IC450, 51	AN3834K	IC	2		R19, 20	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
IC452	UPC4550G2	IC	1		R21	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
IC510, 11	NJM79L09UA	IC	2		R25-29	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	5	
IC512, 13	NJM79L09UA	IC	2		R31	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
IC514	NJM79L05UA	IC	1		R32	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
IC515, 16	XG62AP3002P	IC	2		R33	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
IC517	NJM79L05UA	IC	1		R34	VRE0034E563	M. RESISTOR CH 1/10W 56K	1	
IC600	NJM2903M	IC	1		R35	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
					R36	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
IS235	VJS3096640	CONNECTOR (FEMALE)	1		R37	VRE0034E823	M. RESISTOR CH 1/10W 82K	1	
					R38, 39	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	2	
L230, 31	VLQ0576	COIL	2		R40	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
L340	VLQ0504331K	COIL	1		R41	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
L341	VLQ0407120M	COIL 12UH	1		R42	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
L342	VLQ0504331K	COIL	1		R43-45	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
L380	VLQ0407120M	COIL 12UH	1		R46	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
L381, 82	VLQ0504331K	COIL	2		R48	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
L510	VLP0133	COIL	1		R49	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
					R50	VRE0034E471	M. RESISTOR CH 1/10W 470	1	
P1, P2	VJP3454B086	CONNECTOR (MALE)	2		R51	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
					R52	VRE0034E471	M. RESISTOR CH 1/10W 470	1	
Q1	2SD601A-R	TRANSISTOR	1		R53	VRE0034E823	M. RESISTOR CH 1/10W 82K	1	
Q2, Q3	2SB709A-R	TRANSISTOR	2		R54	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
Q4	2SD601A-R	TRANSISTOR	1		R55	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
Q5	2SB709A-R	TRANSISTOR	1		R56-59	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	4	
Q6	2SD601A-R	TRANSISTOR	1		R60	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
Q340, 41	2SB1174-Q	TRANSISTOR	2		R61-77	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	17	
Q380, 81	2SB1174-Q	TRANSISTOR	2		R80, 81	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
Q400	PU3210	TRANSISTOR	1		R82, 83	VRE0034E223	M. RESISTOR CH 1/10W 22K	2	
Q401	PU3110	TRANSISTOR	1		R84	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
Q402	PU3210	TRANSISTOR	1		R85	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
Q403	PU3110	TRANSISTOR	1		R86	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
Q510, 11	2SD601A-R	TRANSISTOR	2		R87, 88	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
					R89, 90	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	2	
QR1	UN2213	TRANSISTOR-RESISTOR	1		R91, 92	ERJ6GEY0154	M. RESISTOR CH 1/10W 150K	2	
QR2	UN2113	TRANSISTOR-RESISTOR	1		R93	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
QR3	UN2215	TRANSISTOR-RESISTOR	1		R94	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
QR4	UN2115	TRANSISTOR-RESISTOR	1		R95	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
QR5, R6	UN2213	TRANSISTOR-RESISTOR	2		R96	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
QR7, R8	UN2113	TRANSISTOR-RESISTOR	2		R97	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
QR30	UN2213	TRANSISTOR-RESISTOR	1		R98, 99	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
QR81, 82	UN2213	TRANSISTOR-RESISTOR	2		R100, 01	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
QR83	UN2113	TRANSISTOR-RESISTOR	1		R102, 03	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	2	
QR84	UN2213	TRANSISTOR-RESISTOR	1		R104	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
QR85	UN2113	TRANSISTOR-RESISTOR	1		R105	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R106	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1		R256	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R107	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1		R257	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R108	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1		R258, 60	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R109	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R261	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R120, 21	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2		R262	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R122, 23	VRE0034E223	M. RESISTOR CH 1/10W 22K	2		R263, 64	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R124	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R265	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R125	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1		R266	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R126	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R267-69	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R127	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1		R270, 71	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R128, 29	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		R275-78	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	4	
R130, 31	VRE0034E224	M. RESISTOR CH 1/10W 220K	2		R280	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R132, 33	ERJ6GEY0154	M. RESISTOR CH 1/10W 150K	2		R281, 82	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R134	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R283-85	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R135	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1		R286, 87	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R136	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1		R300	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R137	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1		R301	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R138	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1		R303, 04	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R139, 40	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2		R305-13	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	9	
R141, 42	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		R314-16	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	3	
R143, 44	VRE0034E224	M. RESISTOR CH 1/10W 220K	2		R317-19	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R145	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R320	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R146	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1		R321	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R147	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1		R322-24	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	3	
R148	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1		R325	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R149	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1		R326	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R160, 61	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2		R327-29	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	3	
R162, 63	VRE0034E223	M. RESISTOR CH 1/10W 22K	2		R330	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R164	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R331	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R165	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1		R332	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R166	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R333	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R167	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1		R334	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R168, 69	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		R336, 37	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R170, 71	VRE0034E224	M. RESISTOR CH 1/10W 220K	2		R338, 39	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R172	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R340	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R173	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1		R341	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R174	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1		R342	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R175	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1		R343	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
R176	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1		R344	ERJ6GEY0122	M. RESISTOR CH 1/10W 1.2K	1	
R177, 78	ERJ6GEY0154	M. RESISTOR CH 1/10W 150K	2		R345	ERJ6GEY0394	M. RESISTOR CH 1/10W 390K	1	
R179, 80	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2		R346	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R181, 82	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		R347	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R183, 84	VRE0034E224	M. RESISTOR CH 1/10W 220K	2		R348	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R185	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R349	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R186	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1		R350	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R187	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1		R351-53	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R188	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1		R354	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R189	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1		R355	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R200	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1		R356	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R201, 02	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2		R357	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R203	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1		R358	ERJ6GEY0394	M. RESISTOR CH 1/10W 390K	1	
R204, 05	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	2		R359	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R206	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R360	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R207	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1		R361	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R208	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1		R362, 63	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	2	
R209	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1		R364	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R210	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1		R365	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
R211	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1		R366	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R212, 13	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2		R367	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R214	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1		R368	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R215, 16	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	2		R369	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R217, 18	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2		R370	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R219	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R371	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R220-24	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	5		R372	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R232	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R373	ERJ6GEY0122	M. RESISTOR CH 1/10W 1.2K	1	
R234	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R374, 75	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R235-43	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	9		R380	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R244	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R381	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1	
R245	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R382	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R246	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R383	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R247	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R384	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1	
R248-51	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	4		R385	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R252	ERJ6GEY0105	M. RESISTOR CH 1/10W 1M	1		R400, 01	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R253	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R402	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R254	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		R403	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	



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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R404, 05	ERJ12YJR68	M. RESISTOR CH 1/2W 0.68	2	
R406, 07	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	2	
R408	ERJ6GEY8222	M. RESISTOR CH 1/10W 2.2K	1	
R409	ERJ6GEY8154	M. RESISTOR CH 1/10W 150K	1	
R410	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	1	
R411	ERJ6GEYJ274	M. RESISTOR CH 1/10W 270K	1	
R412	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	1	
R413	ERJ6GEY8273	M. RESISTOR CH 1/10W 27K	1	
R414, 15	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	2	
R416	ERJ6GEY8122	M. RESISTOR CH 1/10W 1.2K	1	
R417	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R418	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	1	
R419	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	1	
R420	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R421	ERJ6GEYJ274	M. RESISTOR CH 1/10W 270K	1	
R422	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	1	
R423	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R424, 25	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	2	
R426	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R427	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R428, 29	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R430, 31	ERJ12YJR68	M. RESISTOR CH 1/2W 0.68	2	
R432, 33	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R436, 37	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R450	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R451	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
R452	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R453-55	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	3	
R456, 57	ERJ12YJ2R2	M. RESISTOR CH 1/2W 2.2	2	
R458	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1	
R459	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R460	ERJ6GEY8271	M. RESISTOR CH 1/10W 270	1	
R461	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R462	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
R463	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R464, 65	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	2	
R466, 67	ERJ12YJ2R2	M. RESISTOR CH 1/2W 2.2	2	
R468	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1	
R469	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R470	ERJ6GEY8271	M. RESISTOR CH 1/10W 270	1	
R471	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	1	
R510	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R511, 12	VRE0034E391	M. RESISTOR CH 1/10W 390	2	
R513	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R514-17	VRE0034E391	M. RESISTOR CH 1/10W 390	4	
R550-59	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	10	
R600-02	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	3	
R603-06	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	4	
R607-15	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	9	
R621	ERJ6GEY8153	M. RESISTOR CH 1/10W 15K	1	
R622-27	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	6	
R628	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R629, 30	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R631, 32	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	2	
R640	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R650, 51	ERJ6GEY8562	M. RESISTOR CH 1/10W 5.6K	2	
R652	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R653	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R654	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R655	ERJ6GEY8332	M. RESISTOR CH 1/10W 3.3K	1	
R656	ERDS2TJ101	C. RESISTOR 1/4W 100	1	
T6510, 11	VJR0646	TEST POINT	2	
TP1	VJR0646	TEST POINT	1	
TP2	EYF6CU	TEST POINT	1	
TP30, 31	VJR0646	TEST POINT	2	
TP32, 33	EYF6CU	TEST POINT	2	
TP34, 35	VJR0646	TEST POINT	2	
TP60	VJR0646	TEST POINT	1	
TP80-83	VJR0646	TEST POINT	4	
TP120-23	VJR0646	TEST POINT	4	
TP160-63	VJR0646	TEST POINT	4	
TP200	EYF6CU	TEST POINT	1	
TP201	VJR0646	TEST POINT	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
TP202	EYF6CU	TEST POINT	1	
TP231-34	VJR0646	TEST POINT	4	
TP280	VJR0646	TEST POINT	1	
TP300-02	VJR0646	TEST POINT	3	
TP320, 21	VJR0646	TEST POINT	2	
TP400, 01	VJR0646	TEST POINT	2	
TP450, 51	VJR0646	TEST POINT	2	
X320	VSX0645	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	CARD PULLER	1	
	VML2144	CARD PULLER	1	
	■ VEP86146E	F2 SYSCON C.B.A.	1	(RTL) FOR AJ-D650E
	■ VEP86146F	F2 SYSCON C.B.A.	1	(RTL) FOR AJ-D640E
G1	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G9	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G10, 11	ECUM1H10JCN	G. CAPACITOR CH 50V 15P	2	
G12	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G13	ECOB1H104JF	P. CAPACITOR 50V 0.1U	1	
G14	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
G15	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G16-26	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	11	
G27	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G29	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G30	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G32-34	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	3	
G35	ECUM1H470JCN	G. CAPACITOR CH 50V 47P	1	
G36, 37	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G38, 39	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
G46	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G47	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G49	ECUM1C105ZFN	G. CAPACITOR CH 16V 1U	1	
G51	ECUM1C105ZFN	G. CAPACITOR CH 16V 1U	1	
G53	ECUM1C105ZFN	G. CAPACITOR CH 16V 1U	1	
G55	ECUM1C105ZFN	G. CAPACITOR CH 16V 1U	1	
G56-58	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	3	
G59, 60	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
G65	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G66	EGA12HG682	E. CAPACITOR 6800U	1	
G67	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G68, 69	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	2	
G70, 71	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
G72	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G73	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G74	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G76	EGA12HG682	E. CAPACITOR 6800U	1	
G77, 78	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
G79	ECUM1C105ZFN	G. CAPACITOR CH 16V 1U	1	
G81	ECUM1C105ZFN	G. CAPACITOR CH 16V 1U	1	
G83	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G86, 87	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
G88-90	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G91, 92	ECUM1C105ZFN	G. CAPACITOR CH 16V 1U	2	
G93	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G500, 01	ECUM1H120JCN	G. CAPACITOR CH 50V 12P	2	
G502	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G503-06	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4	
G508-13	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	6	
G514	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G516-19	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4	
G520	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G523	ECUM1H331JCN	G. CAPACITOR CH 50V 330P	1	
G526, 27	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	2	
G532-35	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	4	
G537, 38	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G543-45	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	3	
G547	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G548	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G549, 50	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
G703-13	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
G714	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G715, 16	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	2	
G717-21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
G722, 23	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	2	
G724, 25	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G726	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
G727	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
G728	ECEV0JV470Q	E. CAPACITOR CH6. 3V 47U	1	
G729	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
G730	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
G731	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G732	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G733, 34	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	2	
G735	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G736	ECA1CAXN330	E. CAPACITOR 16V 33U	1	
G737	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G738	ECA1CAXN330	E. CAPACITOR 16V 33U	1	
G739, 40	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G741	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
G742	ECUM1H120JCN	C. CAPACITOR CH 50V 12P	1	
G743	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G744, 45	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	2	
G746	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G747-61	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	15	
G762	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G763	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G764	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G765	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G766	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G767	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G768	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G769	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G770	ECUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
G771	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
G772, 73	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G774	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
G775	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G776	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G777-80	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G781, 82	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G783	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G784	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G785	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G900, 01	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
G902, 03	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G904-07	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	4	
D1	MA157	DIODE	1	
D2-D5	MA715	DIODE	4	
D8	MA152WK	DIODE	1	
D9	MA3068-H	DIODE	1	
D10	MA3051-H	DIODE	1	
D11	MA3047-M	DIODE	1	
D12	MA3100-M	DIODE	1	
D13	MA3051-H	DIODE	1	
D14	MA3075-M	DIODE	1	
D15	21DQ04	DIODE	1	
D16	MA3051-H	DIODE	1	
D17	MA157	DIODE	1	
D18-22	MA152WK	DIODE	5	
D25-27	MA152WK	DIODE	3	
D28-43	MA738	DIODE	16	
D44	MA152WK	DIODE	1	
D45-48	MA738	DIODE	4	
D49, 50	SN74S1051NS	IC	2	
D51	MA3062-L	DIODE	1	
D52	MA3082M	DIODE	1	
D53	MA3075-M	DIODE	1	
D54	MA738	DIODE	1	
D500	MA152WK	DIODE	1	
D504, 05	MA715	DIODE	2	
D506	MA152WK	DIODE	1	
D507	MA715	DIODE	1	
D701-06	MA715	DIODE	6	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D709	MA715	DIODE	1	
D711-14	MA157	DIODE	4	
D715	MA152WK	DIODE	1	
D716-19	MA715	DIODE	4	
D720-22	SN74S1051NS	IC	3	
D723, 24	MA715	DIODE	2	
FL701, 02	VLF1016A470	FILTER	2	
FL900-03	VLF1016A470	FILTER	4	
IC1	M37702S4AFP	IC	1	
IC2	VS12397	IC	1	
IC3	74F573SJ	IC	1	
IC4	74F138SJ	IC	1	
IC5	74F573SJ	IC	1	
IC6	TL7705CP8B	IC	1	
IC7	MC74HC132AF	IC	1	
IC8	MC74HC04AF	IC	1	
IC9, 10	74AG32SJ	IC	2	
IC11, 12	74F32SJ	IC	2	
IC13	MC74HC74AF	IC	1	
IC14	74F11SJ	IC	1	
IC15	1DT71321A55	IC	1	
IC16	74F245SJ	IC	1	
IC17	DS1230Y100	IC	1	
IC19, 20	74F541SJ	IC	2	
IC23	74F245SJ	IC	1	
IC24	UPD6456T611Y	IC	1	
IC25	74F138SJ	IC	1	
IC26	MB89363BHPF	IC	1	
IC27, 28	M54649L	IC	2	
IC29	NJM2901M	IC	1	
IC30	NJM2904M	IC	1	
IC31, 32	MC14538BF	IC	2	
IC33	74F32SJ	IC	1	
IC34	74F00SJ	IC	1	
IC35	NJM2901M	IC	1	
IC36, 37	IC7S14F	IC	2	
IC500	HD64180ZRP8	IC	1	
IC501, 02	MC74HC541AF	IC	2	
IC503	VS12398A	IC	1	
IC504	K6256CL67L	IC	1	
IC505	1DT71321A55	IC	1	
IC506	MC74HC138AF	IC	1	
IC507	74F32SJ	IC	1	
IC508	MC74HC00AF	IC	1	
IC509	T74HC191AF	IC	1	
IC510	Z84C4310FEC	IC	1	
IC514	MC34051M	IC	1	
IC515	MC1488M	IC	1	
IC516	MC1489AM	IC	1	
IC517	MC14024BF	IC	1	
IC523	MC74HC04AF	IC	1	
IC524	MC14050BF	IC	1	
IC525	SN74LS38NS	IC	1	
IC527	MB89363BPF	IC	1	
IC528, 29	MC14021BF	IC	2	
IC530, 31	T74HC191AF	IC	2	
IC532	MC74HC574AF	IC	1	
IC701	M37702S4AFP	IC	1	
IC702	VS12399	IC	1	
IC703	K6256CL67L	IC	1	
IC704	74F573SJ	IC	1	
IC705, 06	74F138SJ	IC	2	
IC707, 08	74F32SJ	IC	2	
IC709	74F00SJ	IC	1	
IC710	MN51040VPI	IC	1	
IC711	MC74HC574AF	IC	1	
IC712	74AG32SJ	IC	1	
IC713	74F32SJ	IC	1	
IC714, 15	74F541SJ	IC	2	
IC716	74F245SJ	IC	1	
IC717	74F541SJ	IC	1	
IC718	MC14053BF	IC	1	
IC719	NJM4560MD	IC	1	



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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC720	NJM2068MD	IC	1	
IC721	UPC31962	IC	1	
IC722	UPC4741Q2	IC	1	
IC723	NJM78L09UA	IC	1	
IC724	NJM79L09UA	IC	1	
IC725, 26	NJM084M	IC	2	
IS2	VJS2336A032	CONNECTOR (FEMALE)	1	
IS17	VJS3096628	CONNECTOR (FEMALE)	1	
IS503	VJS2336A032	CONNECTOR (FEMALE)	1	
IS702	VJS2336A032	CONNECTOR (FEMALE)	1	
L1	VLQ0163J270	COIL 27UH	1	
L2	VLQ0319K470	COIL 47UH	1	
L500-03	VLQ0576	COIL	4	
L701	VLQ0163J470	COIL 47UH	1	
L900-03	VLP0133	COIL	4	
LED1-D4	LN1251CAL	DIODE	4	
P1, P2	VJP3454B096	CONNECTOR (MALE)	2	
Q3	2SB710A-R	TRANSISTOR	1	
Q4	2SB936AQDSX	TRANSISTOR	1	
Q5, Q6	2SD601A-R	TRANSISTOR	2	
Q7, Q8	2SB1073-R	TRANSISTOR	2	
Q9	2SD601A-R	TRANSISTOR	1	
Q10	2SB709A-R	TRANSISTOR	1	
Q11, 12	2SD1119-R	TRANSISTOR	2	
Q13	2SB709A-R	TRANSISTOR	1	
Q14	2SD601A-R	TRANSISTOR	1	
Q15, 16	2SB1073-R	TRANSISTOR	2	
Q17	2SD601A-R	TRANSISTOR	1	
Q18	2SB709A-R	TRANSISTOR	1	
Q19, 20	2SD1119-R	TRANSISTOR	2	
Q21	2SB709A-R	TRANSISTOR	1	
Q22	2SD601A-R	TRANSISTOR	1	
Q23, 24	2SB1175-Q	TRANSISTOR	2	
Q25	2SD601A-R	TRANSISTOR	1	
Q26	2SB709A-R	TRANSISTOR	1	
Q27, 28	2SD1747-QY	TRANSISTOR	2	
Q29	2SB709A-R	TRANSISTOR	1	
Q30	2SD601A-R	TRANSISTOR	1	
Q31, 32	2SB1073-R	TRANSISTOR	2	
Q33	2SD601A-R	TRANSISTOR	1	
Q34	2SB709A-R	TRANSISTOR	1	
Q35, 36	2SD1119-R	TRANSISTOR	2	
Q37	2SB709A-R	TRANSISTOR	1	
Q38	2SD601A-R	TRANSISTOR	1	
Q39	2SB1175-Q	TRANSISTOR	1	
Q701-03	2SD601A-R	TRANSISTOR	3	
Q704, 05	2SB709A-R	TRANSISTOR	2	
QR3-10	UN2213	TRANSISTOR-RESISTOR	8	
QR11-16	UN2214	TRANSISTOR-RESISTOR	6	
QR17	UN2213	TRANSISTOR-RESISTOR	1	
QR18-26	UN2214	TRANSISTOR-RESISTOR	9	
QR27, 28	UN2113	TRANSISTOR-RESISTOR	2	
QR29, 30	UN2214	TRANSISTOR-RESISTOR	2	
QR31, 32	UN2113	TRANSISTOR-RESISTOR	2	
QR33, 34	UN2214	TRANSISTOR-RESISTOR	2	
QR35, 36	UN2113	TRANSISTOR-RESISTOR	2	
QR37, 38	UN2213	TRANSISTOR-RESISTOR	2	
QR39, 40	UN2113	TRANSISTOR-RESISTOR	2	
QR41	UN2213	TRANSISTOR-RESISTOR	1	
QR42	UN2113	TRANSISTOR-RESISTOR	1	
QR43	UN2213	TRANSISTOR-RESISTOR	1	
QR701-05	UN2214	TRANSISTOR-RESISTOR	5	
R1-R5	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	5	
R6-10	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	5	
R11, 12	ERJ66EYG332	M. RESISTOR CH 1/10W 3.3K	2	
R13, 14	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	2	
R16	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R17	ERJ66EYG394	M. RESISTOR CH 1/10W 390K	1	
R18, 19	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	2	
R20	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R21, 22	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R23, 24	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	2	
R25, 26	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	2	
R27, 28	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R29	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R33-35	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	3	
R38, 39	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R43	ERJ66EYB271	M. RESISTOR CH 1/10W 270	1	
R44	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R45	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R46	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R47	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R48	ERJ66EYB562	M. RESISTOR CH 1/10W 5.6K	1	
R49	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R54, 55	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R56	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R57	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R58-61	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	4	
R62	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R63-70	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	8	
R71, 72	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R73, 74	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	2	
R75	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R76, 77	ERJ66EYG101	M. RESISTOR CH 1/10W 100	2	
R82	ERJ66EYG104	M. RESISTOR CH 1/10W 100K	1	
R83	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R84-87	ERJ66EYG104	M. RESISTOR CH 1/10W 100K	4	
R89	ERJ66EYG104	M. RESISTOR CH 1/10W 100K	1	
R90-95	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	6	
R96	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R97	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R100	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R101, 02	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R103, 04	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	2	
R105	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R106	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R108	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R109, 10	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R111, 12	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	2	
R113	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R114	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R116	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R117, 18	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R119, 20	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	2	
R121	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R122	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R124	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R125, 26	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R127, 28	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	2	
R129-37	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	9	
R138, 39	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	2	
R141, 42	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R144	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R145-47	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	3	
R148	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R150	ERJ66EYB562	M. RESISTOR CH 1/10W 5.6K	1	
R151	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R152	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R153	ERJ66EYG271	M. RESISTOR CH 1/10W 270	1	
R154	ERX1SJ1R0	M. RESISTOR 1W 1.0	1	
R155	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R156	ERJ66EYB562	M. RESISTOR CH 1/10W 5.6K	1	
R157	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R158	ERJ66EYB271	M. RESISTOR CH 1/10W 270	1	
R159	ERG1SJ220	M. RESISTOR 1W 22	1	
R160	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R161	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R162, 63	ERJ86CYJ151	M. RESISTOR CH 1/8W 150	2	
R164, 65	ERJ66EYB563	M. RESISTOR CH 1/10W 56K	2	
R166	ERJ86CYB152	M. RESISTOR CH 1/8W 1.5K	1	
R167-69	ERJ86CYB681	M. RESISTOR CH 1/8W 680	3	
R170	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R171	ERJ66EYB563	M. RESISTOR CH 1/10W 56K	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R172, 73	ERJ6GEY394	M. RESISTOR CH 1/10W 390K	2	
R174-81	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	8	
R182	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R184	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R185	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R186	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R187-90	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	4	
R191	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R192	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R193, 94	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R195	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R196, 97	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R198	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R199, 00	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R201	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R202	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R203, 04	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R205	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R206	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R207, 08	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R209	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R210, 11	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R212	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R213, 14	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R215	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R216, 17	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R218	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R219, 20	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R221	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R222	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R223, 24	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R225	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R226	ERJ6GEY392	M. RESISTOR CH 1/10W 3.9K	1	
R227, 28	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R229	ERJ6GEY392	M. RESISTOR CH 1/10W 3.9K	1	
R230, 31	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R232	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R233, 34	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R235	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R236, 37	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R238	ERJ6GEY392	M. RESISTOR CH 1/10W 3.9K	1	
R239, 40	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R241	ERJ6GEY392	M. RESISTOR CH 1/10W 3.9K	1	
R242	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R243, 44	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R245	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R246	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R247, 48	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R249	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R250, 51	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R252	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R253, 54	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R255	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R256, 57	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R258	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R259, 60	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R261	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R262	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R263	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R266-69	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	4	
R271	ERJ6GEY821	M. RESISTOR CH 1/10W 820	1	
R273	ERJ6GEY821	M. RESISTOR CH 1/10W 820	1	
R275	ERJ6GEY821	M. RESISTOR CH 1/10W 820	1	
R277	ERJ6GEY821	M. RESISTOR CH 1/10W 820	1	
R281	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R284, 85	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R288	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R290	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R291	ERJ6GEY105	M. RESISTOR CH 1/10W 1M	1	
R292, 93	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R294	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R295	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R296	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R297	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R298	ERJ6GEY105	M. RESISTOR CH 1/10W 1M	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R299	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R304-15	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	12	
R316, 17	ERJ6S1J100	M. RESISTOR 1W 10	2	
R318	ERJ6S1J6R2	M. RESISTOR 1W 6.2	1	
R319	ERJ6S1J100	M. RESISTOR 1W 10	1	
R320	ERJ6GEY6222	M. RESISTOR CH 1/10W 2.2K	1	
R321-28	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	8	
R329, 30	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R332	ERJ6GEY6222	M. RESISTOR CH 1/10W 2.2K	1	
R333	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R334	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R335	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R336	ERJ6GEY392	M. RESISTOR CH 1/10W 3.9K	1	
R337, 38	ERJ8GCYJ391	M. RESISTOR CH 1/8W 390	2	
R341	ERJ6GEY105	M. RESISTOR CH 1/10W 1M	1	
R342	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R345	ERJ6GEY105	M. RESISTOR CH 1/10W 1M	1	
R346	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R347	ERJ6GEY104	M. RESISTOR CH 1/10W 100K	1	
R348	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R349-62	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	14	
R363, 64	ERJ6GEY6271	M. RESISTOR CH 1/10W 270	2	
R365	ERJ6GEY6223	M. RESISTOR CH 1/10W 22K	1	
R366	ERJ6GEY6563	M. RESISTOR CH 1/10W 56K	1	
R500	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R501	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R502, 03	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R504-11	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	8	
R512	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R513, 14	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R517	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R518, 19	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R520	ERJ6GEY101	M. RESISTOR CH 1/10W 100	1	
R529-31	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3	
R532, 33	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R534	ERJ6GEY101	M. RESISTOR CH 1/10W 100	1	
R542	ERJ6GEY6223	M. RESISTOR CH 1/10W 22K	1	
R545	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R546	ERJ6GEY6223	M. RESISTOR CH 1/10W 22K	1	
R548, 49	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R550, 51	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R554-58	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	5	
R580	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R585	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R598	ERJ6GEY101	M. RESISTOR CH 1/10W 100	1	
R599	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R606, 07	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R608	ERJ6GEY6222	M. RESISTOR CH 1/10W 2.2K	1	
R610-13	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	4	
R618-20	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	3	
R621-28	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	8	
R630	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R633	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R635	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R637	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R640	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R641	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R701	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R702	ERJ6GEY6222	M. RESISTOR CH 1/10W 2.2K	1	
R705-10	ERJ6GEY394	M. RESISTOR CH 1/10W 390K	6	
R711-16	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	6	
R717	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R718	ERJ6GEY101	M. RESISTOR CH 1/10W 100	1	
R719, 20	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	2	
R721, 22	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R723-26	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	4	
R727	ERJ6GEY105	M. RESISTOR CH 1/10W 1M	1	
R728-31	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	4	
R732-34	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	3	
R735	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R736	ERJ6GEY104	M. RESISTOR CH 1/10W 100K	1	
R737	ERJ6GEY105	M. RESISTOR CH 1/10W 1M	1	
R738	ERJ6GEY6221	M. RESISTOR CH 1/10W 220	1	
R739, 40	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R741, 42	ERJ6GEY104	M. RESISTOR CH 1/10W 100K	2	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R743, 44	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R745, 46	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R747	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R748	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R749, 50	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R751	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R752, 53	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R754	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R755	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R756-59	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	4	
R762	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R764, 65	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R766	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R767-69	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3	
R770	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R771	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R772	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R773	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R774	ERJ6GEYG220	M. RESISTOR CH 1/10W 22	1	
R775, 76	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	2	
R777	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R778-81	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	4	
R782	VRE0034E470	M. RESISTOR CH 1/10W 47	1	
R783	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R784	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R785	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R786	VRE0034E820	M. RESISTOR CH 1/10W 82	1	
R787	VRE0034E470	M. RESISTOR CH 1/10W 47	1	
R788	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R789	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R790	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R791	VRE0034E683	M. RESISTOR CH 1/10W 68K	1	
R792	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	1	
R793	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R794, 95	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	2	
R796	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R797, 98	VRE0034E102	M. RESISTOR CH 1/10W 1K	2	
R799	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R800, 01	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R802	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R803, 04	VRE0034E102	M. RESISTOR CH 1/10W 1K	2	
R805-08	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	4	
R809	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R810	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R811, 12	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R813	ERJ6GEYG824	M. RESISTOR CH 1/10W 820K	1	
R814	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R815	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R816-39	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	24	
R840-47	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	8	
R848-56	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	9	
R857	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R858, 59	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R860-62	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3	
R863, 64	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R865	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R866	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R867	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R868	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R869	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R870	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R871, 72	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R873	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R874, 75	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R876	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R877, 78	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	2	
R879, 80	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R881	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R882, 83	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	2	
R884	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R885	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R886	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R887, 88	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	2	
R890	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R891	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R892	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R893	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R894	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R895	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R900-03	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	4	
SW501	VSS0367-08B	SWITCH	1	
T61	EYF6CU	TEST POINT	1	
T6701	EYF6CU	TEST POINT	1	
TP8	EYF6CU	TEST POINT	1	
VC1	VCV0049	TRIMMER	1	
X1	VSX0641	CRYSTAL OSCILLATOR	1	
X500	VSX0641	CRYSTAL OSCILLATOR	1	
X701	VSX0465	CRYSTAL OSCILLATOR	1	
X702	VSX0498	CRYSTAL OSCILLATOR	1	
X703	VSX0615	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	CARD PULLER	1	
	VML2144	CARD PULLER	1	
	■ VEP83352B	F4 V OUT C.B.A.	1 (RTL)	
C100	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C101	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C102	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C103	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C150-59	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	10	
C200-03	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4	
C250, 51	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C252	ECEV1CV100Q	E. CAPACITOR CH 16V 100U	1	
C253-57	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5	
C258	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C300-02	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
C303	ECEV1CV100Q	E. CAPACITOR CH 16V 100U	1	
C304	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C305	ECEV0JV101Q	E. CAPACITOR CH 6.3V 100U	1	
C306, 07	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C308	ECEV1CV100Q	E. CAPACITOR CH 16V 100U	1	
C309, 10	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C311	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C312	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C313	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C314-16	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
C317	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C318-23	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	6	
C324	ECEV1CV100Q	E. CAPACITOR CH 16V 100U	1	
C325, 26	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C327	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C328	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1	
C329, 30	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C331	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C332	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C333	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1	
C334, 35	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C336, 37	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	2	
C338	ECUX1H100DCV	C. CAPACITOR CH 50V 10P	1	
C339	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1	
C340	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C342	ECUX1H100DCV	C. CAPACITOR CH 50V 10P	1	
C343	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1	
C344	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C346	ECUX1H020CCV	C. CAPACITOR CH 50V 2P	1	
C347	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C348, 49	ECEV1CV100Q	E. CAPACITOR CH 16V 100U	2	
C350	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1	
C351	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C352-66	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	15	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C400	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C401	ECUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
C402-04	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
C405	ECUX1H330JGV	G. CAPACITOR CH 50V 33P	1	
C406	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C407	ECUX1H271JGV	G. CAPACITOR CH 50V 270P	1	
C409, 10	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C411	ECUX1H270JGV	G. CAPACITOR CH 50V 27P	1	
C412, 13	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C414	ECUX1H271JGV	G. CAPACITOR CH 50V 270P	1	
C415	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C500	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C501	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C502	ECUX1H221JGV	G. CAPACITOR CH 50V 220P	1	
C503	ECUX1H821JGV	G. CAPACITOR CH 50V 820P	1	
C504	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C505	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C506, 07	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C508	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C509	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C510, 11	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	2	
C512	ECUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
C513-15	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
C516	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C517	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C518	ECUX1H1000GV	G. CAPACITOR CH 50V 10P	1	
C519-21	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
C522	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C523-25	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
C526	ECUX1H271JGV	G. CAPACITOR CH 50V 270P	1	
C527	ECUX1H151JGV	G. CAPACITOR CH 50V 150P	1	
C528	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C529	ECUX1H820JGV	G. CAPACITOR CH 50V 82P	1	
C530-33	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
C534	ECUX1H820JGV	G. CAPACITOR CH 50V 82P	1	
C535-38	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
C539	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C540, 41	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C542	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C543	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C544	ECUX1H330JGV	G. CAPACITOR CH 50V 33P	1	
C545	ECUX1H270JGV	G. CAPACITOR CH 50V 27P	1	
C546	ECUX1H221JGV	G. CAPACITOR CH 50V 220P	1	
C548	ECUX1H270JGV	G. CAPACITOR CH 50V 27P	1	
C550	ECUX1H101JGV	G. CAPACITOR CH 50V 100P	1	
C551	ECUM1C473KBV	G. CAPACITOR CH 16V 0.047U	1	
C552	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C553	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C554	ECUM1C473KBV	G. CAPACITOR CH 16V 0.047U	1	
C555	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C556	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C557	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C558	ECUM1C473KBV	G. CAPACITOR CH 16V 0.047U	1	
C559, 60	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C561, 62	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	2	
C563, 64	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C565	ECUX1H1000GV	G. CAPACITOR CH 50V 10P	1	
C566	ECUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
C567	ECUX1H330JGV	G. CAPACITOR CH 50V 33P	1	
C568, 69	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C570	ECEV0JV470Q	E. CAPACITOR CH 6V 3V 47U	1	
C571	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C572	ECEV0JV470Q	E. CAPACITOR CH 6V 3V 47U	1	
C573-76	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
C600-06	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	7	
C700-03	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
C800, 01	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	2	
C802	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C803, 04	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C805	ECUX1H0200GV	G. CAPACITOR CH 50V 2P	1	
C806	ECUX1H121JGV	G. CAPACITOR CH 50V 120P	1	
C807	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C808, 09	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C810	ECUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
C811-14	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C815	ECUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
C816-18	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
C819	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C820	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C821	ECUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
C822	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C823-25	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
C826	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C827	ECUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
C828	ECUX1H0200GV	G. CAPACITOR CH 50V 2P	1	
C829-32	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
C833	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C834	ECUX1H150JGV	G. CAPACITOR CH 50V 15P	1	
C850	ECUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
C851	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C852-55	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
C856	ECUX1H390JGV	G. CAPACITOR CH 50V 39P	1	
C857	ECUX1H0700GV	G. CAPACITOR CH 50V 7P	1	
C900	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C901	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C902	ECUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
C903	ECUX1H181JGV	G. CAPACITOR CH 50V 180P	1	
C904, 05	ECUX1H103KBV	G. CAPACITOR CH 50V 0.01U	2	
C906	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C907	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C908	ECUX1H180JGV	G. CAPACITOR CH 50V 18P	1	
C909	ECUX1H680JGV	G. CAPACITOR CH 50V 68P	1	
C910, 11	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C912	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	1	
C913	ECUX1H330JGV	G. CAPACITOR CH 50V 33P	1	
C914-16	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
C917	ECUX1H101JGV	G. CAPACITOR CH 50V 100P	1	
C918	ECUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C919	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C920	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C921	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C922	ECUX1H101JGV	G. CAPACITOR CH 50V 100P	1	
C923	ECUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
C924	ECUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
C925	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C926	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C927	ECUX1H390JGV	G. CAPACITOR CH 50V 39P	1	
C928	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C929	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C930	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C931	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C932	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C933	ECUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
C934, 35	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C936	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C937	ECUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
C938	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C939	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	1	
C940	ECUX1H102JV	G. CAPACITOR CH 50V 1000P	1	
C941, 42	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C945	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	1	
C946	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C947	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C948, 49	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
C1000	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C1001	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C1002	ECUX1H820JGV	G. CAPACITOR CH 50V 82P	1	
C1003	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C1004	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C1005	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C1006-12	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	7	
C1013	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
C1014	ECUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
C1015-18	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
C1019	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1	
C1020	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C1021	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C1023	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
C1024	ECUX1H102JV	G. CAPACITOR CH 50V 1000P	1	
C1025-27	ECUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C1028, 29	EGUX1H470JCV	C. CAPACITOR CH 50V 47P	2		FL305	VLF1295	FILTER	1	
C1030	EGUX1H680JCV	C. CAPACITOR CH 50V 68P	1		FL1150-53	VLF1016A223	FILTER	4	
C1031	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC150, 51	SN74S1051NS	IC	2	
C1035	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC152	74ALS245ASJ	IC	1	
C1050	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC153, 54	74ALS541SJ	IC	2	
C1052	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC156	VS12391	IC	1	
C1053-56	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	4		IC157	SN74S1051NS	IC	1	
C1057	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC158	MC74HC574AF	IC	1	
C1058	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	1		IC159	UPD71055GB	IC	1	
C1059	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC160	MC74HC574AF	IC	1	
C1060	EGUX1H102JV	C. CAPACITOR CH 50V 1000P	1		IC161	SN74S1051NS	IC	1	
C1062, 63	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		IC163	MC74HC74AF	IC	1	
C1100, 01	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		IC200, 01	MC74HC574AF	IC	2	
C1103	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC202	MC74HC541AF	IC	1	
C1104	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC203	TC7SH08FU	IC	1	
C1105	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC250	XC62AP3002P	IC	1	
C1106	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC251	UPD65840G024	IC	1	
C1107, 08	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		IC300	NJM082BM	IC	1	
C1109	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1		IC301	NJM084M	IC	1	
C1110	EGUX1H681JV	C. CAPACITOR CH 50V 680P	1		IC303	MC74HC244AF	IC	1	
C1111-13	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		IC306-08	MB40778PF	IC	3	
C1114	EGUX1H150JCV	C. CAPACITOR CH 50V 15P	1		IC309-11	EL4089CS	IC	3	
C1115-20	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	6		IC312, 13	MC14053BF	IC	2	
C1121	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC500	NJM082BM	IC	1	
C1122	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC502	MC74HC4053F	IC	1	
C1123	EGUX1H101JCV	C. CAPACITOR CH 50V 100P	1		IC503	MS1272FP	IC	1	
C1124-26	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		IC600	74ALS541SJ	IC	1	
C1127, 28	EGUX1H471JCV	C. CAPACITOR CH 50V 470P	2		IC601-03	MC10H124M	IC	3	
C1129-31	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		IC700	VS12403	IC	1	
C1150	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC800	EL4089CS	IC	1	
C1151	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1		IC801	NJM082BM	IC	1	
C1152	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC802	NJM2534V	IC	1	
C1153	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC804	NJM2534V	IC	1	
C1154	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC805	AD828AR	IC	1	
C1155	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC850	NJM2534V	IC	1	
C1156	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC900	AN91A12S	IC	1	
C1157, 58	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	2		IC902	NE521D	IC	1	
C1159, 60	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2		IC904	MC74HC04AF	IC	1	
C1161	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1		IC908, 09	MM74HC221AM	IC	2	
C1162	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC910	MC74HC125AF	IC	1	
C1163	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1		IC913	NJM082BM	IC	1	
C1164	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC915	SN74LS221NS	IC	1	
C1165	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC916	NJM082BM	IC	1	
C1166, 67	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		IC923-25	TC7SH00FU	IC	3	
C1168	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC1000	NE521D	IC	1	
C1169	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1		IC1001	DAC106S	IC	1	
C1170-75	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	6		IC1002	MC14053BF	IC	1	
C1176	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC1003	NJM082BM	IC	1	
C1177	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC1004	TC7SH08FU	IC	1	
C1178	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC1005	NJM084M	IC	1	
C1179	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC1015	TC7SH00FU	IC	1	
C1180	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC1051	NJM082BM	IC	1	
C1181	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC1053	SN74AS74NS	IC	1	
C1182	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC1055, 56	SN74AS244NS	IC	2	
C1183	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC1057	SN74AS74NS	IC	1	
C1184	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC1058	SN74AS244NS	IC	1	
C1185	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC1100	NJM084M	IC	1	
C1186	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC1102	DAC106S	IC	1	
C1187-95	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	9		IC1103	SN74LS221NS	IC	1	
C1196-03	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	8		IC1106	UPD65650J203	IC	1	
C1204-11	EGUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	8		IC1107, 08	MC74HC04AF	IC	2	
D400	MA152K	DIODE	1		IC1113	MC74HC244AF	IC	1	
D500	MA152K	DIODE	1		IC1114	MC74HC00AF	IC	1	
D501, 02	MA335-R	DIODE	2		IC1115, 16	SN74LS221NS	IC	2	
D503	MA152K	DIODE	1		IC1150	NJM78L05UA	IC	1	
D900	MA142WK	DIODE	1		IC1151	NJM78L05UA	IC	1	
D901	MA152K	DIODE	1		IC1152	NJM79L05UA	IC	1	
D1000	MA142K	DIODE	1		IC1153	AN78N09	IC	1	
D1001	MA335-R	DIODE	1		IC1154	AN78N05	IC	1	
D1050	MA152K	DIODE	1		IC1155	AN79N09	IC	1	
D1100	MA142K	DIODE	1		IC1156	NJM78L05UA	IC	1	
FL301	VLF1294	FILTER	1		IC1157	NJM78L05UA	IC	1	
FL303	VLF1295	FILTER	1		IC1158	NJM79L05UA	IC	1	
					IC1159	NJM79L05UA	IC	1	



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Ref. No.	Part No.	Part Name & Description	Pos	Remarks
IC1160	AN78N09	IC	1	
IC1161	NJM78L05UA	IC	1	
IC1162	NJM78L05UA	IC	1	
IC1163	AN78N09	IC	1	
L100-06	VLP0133	COIL	7	
L302, 03	VLQ0163J6R8	COIL 6.8UH	2	
L304	VLQ0163J120	COIL 12UH	1	
L305, 06	VLQ0163J560	COIL 56UH	2	
L307	VLQ0163J220	COIL 22UH	1	
L400	VLQ0163J101	COIL 100UH	1	
L401, 02	VLQ0163J470	COIL 47UH	2	
L500-02	VLQ0163J220	COIL 22UH	3	
L503	VLQ0163J270	COIL 27UH	1	
L504	VLQ0163J820	COIL 82UH	1	
L505, 06	VLQ0163J470	COIL 47UH	2	
L507	VLQ0163J150	COIL 15UH	1	
L508	VLQ0163J5R6	COIL 5.6UH	1	
L509	VLQ0163J470	COIL 47UH	1	
L510	VLQ0163J6R8	COIL 6.8UH	1	
L800	VLQ0163J120	COIL 12UH	1	
L801, 02	VLQ0163J220	COIL 22UH	2	
L850	VLQ0163J180	COIL 18UH	1	
L900	VLQ0163J101	COIL 100UH	1	
L901	VLQ0163J221	COIL 220UH	1	
L902	VLQ0163J390	COIL 39UH	1	
L903-08	VLQ0163J470	COIL 47UH	6	
L1000	VLQ0163J470	COIL 47UH	1	
L1001	VLQ0163J221	COIL 220UH	1	
L1002, 03	VLQ0163J220	COIL 22UH	2	
L1004	VLQ0163J470	COIL 47UH	1	
L1100, 01	VLQ0163J220	COIL 22UH	2	
P1, P2	VJP3454B096	CONNECTOR (MALE)	2	
P3	VJP1233T	CONNECTOR (MALE)	6P	
Q200	UN2212	TRANSISTOR-RESISTOR	1	
Q300-05	2SD601A-R	TRANSISTOR	6	
Q306-14	2SB709A-R	TRANSISTOR	9	
Q315-17	2SD601A-R	TRANSISTOR	3	
Q318, 19	2SB709A-R	TRANSISTOR	2	
Q400	2SC2404-C	TRANSISTOR	1	
Q401-03	2SB709A-R	TRANSISTOR	3	
Q404, 05	2SD601A-R	TRANSISTOR	2	
Q406, 07	2SB709A-R	TRANSISTOR	2	
Q408-10	2SD601A-R	TRANSISTOR	3	
Q500	2SB709A-R	TRANSISTOR	1	
Q501, 02	2SC2295-B	TRANSISTOR	2	
Q503, 04	2SB709A-R	TRANSISTOR	2	
Q505	2SC2295-B	TRANSISTOR	1	
Q506, 07	2SB709A-R	TRANSISTOR	2	
Q508	2SD601A-R	TRANSISTOR	1	
Q509	XN6501	TRANSISTOR-RESISTOR	1	
Q510	2SD601A-R	TRANSISTOR	1	
Q511, 12	2SC2295-B	TRANSISTOR	2	
Q513	2SD601A-R	TRANSISTOR	1	
Q514	2SB709A-R	TRANSISTOR	1	
Q800, 01	2SA1532-B	TRANSISTOR	2	
Q802, 03	2SD601A-R	TRANSISTOR	2	
Q804-07	2SB709A-R	TRANSISTOR	4	
Q850	2SA1532-B	TRANSISTOR	1	
Q851	2SB709A-R	TRANSISTOR	1	
Q1000	2SB709A-R	TRANSISTOR	1	
Q1001, 02	2SK608-R	TRANSISTOR	2	
R151, 52	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R153, 54	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R155-65	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	11	
R166-69	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	4	
R170-80	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	11	
R181, 82	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R183	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R200-21	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	22	
R222	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R223, 24	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	

Ref. No.	Part No.	Part Name & Description	Pos	Remarks
R225-32	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	8	
R250	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R252	ERJ3GEYJ680	M. RESISTOR CH 1/16W 68	1	
R253	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R254	ERJ3GEYR000	M. RESISTOR CH 1/16W 0	1	
R255	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R258	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R260	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R262, 63	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R266-70	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	5	
R273, 74	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R302	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R303	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	1	
R304	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R305	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R306	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R307	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R308, 09	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	2	
R310, 11	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R312	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R313	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R314	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R315, 16	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2	
R317	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R318	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R320	ERJ3GEYR000	M. RESISTOR CH 1/16W 0	1	
R321	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R322	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R323, 24	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2	
R326	ERJ3GEYR000	M. RESISTOR CH 1/16W 0	1	
R328	ERJ3GEYR000	M. RESISTOR CH 1/16W 0	1	
R329-32	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	4	
R334	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R335	ERJ3GEYR000	M. RESISTOR CH 1/16W 0	1	
R336	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R337	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R338	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R339	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R340	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R341	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R342	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R343	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R344	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R345	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R347, 48	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2	
R349	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R350	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R351	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R352	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R353	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R354	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R355	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R356	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R357	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R358	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R359	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1	
R361	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R362	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R363	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R364	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R366	ERJ3GEYJ121	M. RESISTOR CH 1/16W 120	1	
R367	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R368	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R369	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R370	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R372	ERJ3GEYJ121	M. RESISTOR CH 1/16W 120	1	
R374	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R375	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R378	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R379	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R380	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R382	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R383	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R384	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R385	VRE0034E752	M. RESISTOR CH 1/10W 7.5K	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R386-88	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	3		R555	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R391, 92	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2		R556, 57	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	2	
R400	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1		R558	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R401	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1		R559	VRE0034E301	M. RESISTOR CH 1/10W 300	1	
R402	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1		R560	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R403	VRE0034E151	M. RESISTOR CH 1/10W 150	1		R561	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R404	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R562, 63	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R405	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1		R564	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R406, 07	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2		R565	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R408	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R566	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R409	VRE0034E752	M. RESISTOR CH 1/10W 7.5K	1		R567, 68	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	2	
R410	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R569, 70	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	2	
R411	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1		R571	VRE0034E301	M. RESISTOR CH 1/10W 300	1	
R412	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1		R572	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R413	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R573	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R414	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R574	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R415, 16	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2		R575	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R417	VRE0034E221	M. RESISTOR CH 1/10W 220	1		R576	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R418	VRE0034E121	M. RESISTOR CH 1/10W 120	1		R577	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R419	VRE0034E681	M. RESISTOR CH 1/10W 680	1		R578	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R420	VRE0034E151	M. RESISTOR CH 1/10W 150	1		R579	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R421	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R580	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R422	VRE0034E121	M. RESISTOR CH 1/10W 120	1		R581	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R423, 24	VRE0034E271	M. RESISTOR CH 1/10W 270	2		R600	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R425	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R601-10	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	10	
R426	VRE0034E121	M. RESISTOR CH 1/10W 120	1		R611-34	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	24	
R427	VRE0034E221	M. RESISTOR CH 1/10W 220	1		R635-58	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	24	
R428	VRE0034E181	M. RESISTOR CH 1/10W 180	1		R700, 01	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R429	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R800, 01	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	2	
R430	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R802	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R431	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R803	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R432	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R804	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R433	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R806	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R434, 35	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R810	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R500	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R812	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R502, 03	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2		R813, 14	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	2	
R504	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R815	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R505	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R816	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R506	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R817	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R507	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R818, 19	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	2	
R509	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1		R820	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R510	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1		R821	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R511	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1		R822	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R513	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R823	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R514	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1		R824	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R515	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1		R825	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R516	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R826	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R517	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R828	VRE006610102	M. RESISTOR CH 1/10W 1K	1	
R518	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R829, 30	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2	
R519, 20	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2		R831-33	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	3	
R521	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R834-36	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	3	
R522	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R837	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R523	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1		R838-40	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	3	
R524	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R841	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R525	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R842	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1	
R526	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1		R843	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R527	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R844, 45	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	2	
R528	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1		R846	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R529	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1		R847	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R530	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R848	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R531	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1		R849	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R532-34	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	3		R850	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R535, 36	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2		R851	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R537, 38	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	2		R852	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R539	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R853	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R540, 41	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2		R854	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R542	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R855, 56	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	2	
R543	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R857	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R544, 45	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2		R858-61	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	4	
R546	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R862	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R547, 48	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2		R863	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R549	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R864	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R550	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R865	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R551	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R866	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R554	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1		R870	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R871	ERJ3GEYJ123	M. RESISTOR CH 1/16W 12K	1		R1108	ERJ3GEY6472	M. RESISTOR CH 1/16W 4.7K	1	
R880	ERDS2TJ562	C. RESISTOR 1/4W 5.6K	1		R1109	ERJ3GEY682	M. RESISTOR CH 1/16W 6.8K	1	
R900	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1		R1110	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R901	ERJ3GEYJ684	M. RESISTOR CH 1/16W 680K	1		R1112	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R902	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R1115	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R903	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1		R1117	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R904, 05	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2		R1119, 20	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R906, 07	ERJ3GEY6822	M. RESISTOR CH 1/16W 8.2K	2		R1122	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R908-10	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	3		R1123	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R911	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1		R1124	ERJ3GEY682	M. RESISTOR CH 1/16W 6.8K	1	
R912	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R1125	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R913	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1		R1126	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R914	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R1127	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R915	ERJ3GEY6822	M. RESISTOR CH 1/16W 8.2K	1		R1128	ERJ3GEY6472	M. RESISTOR CH 1/16W 4.7K	1	
R916	ERJ3GEY682	M. RESISTOR CH 1/16W 6.8K	1		R1129, 30	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2	
R917	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1						
R918	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		SW400	VSS0372	SWITCH	1	
R919	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1						
R920	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		T6100	VJR0646	TEST POINT	1	
R921, 22	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		T6150	VJR0646	TEST POINT	1	
R923	ERJ3GEY6332	M. RESISTOR CH 1/16W 3.3K	1		T6250	VJR0646	TEST POINT	1	
R924	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		T6503	VJR0646	TEST POINT	1	
R925, 26	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2		T6704	VJR0646	TEST POINT	1	
R927	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		T6802	VJR0646	TEST POINT	1	
R928	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1		T6901, 02	VJR0646	TEST POINT	2	
R929	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		T61106	VJR0646	TEST POINT	1	
R930	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1						
R931	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		TH500	ERTD2FHL102S	THERMISTOR 1K	1	
R932	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1						
R933	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		TP300	VJR0646	TEST POINT	1	
R934, 35	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2		TP500, 01	VJR0646	TEST POINT	2	
R1000	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		TP700-03	VJR0646	TEST POINT	4	
R1001	ERJ3GEY6152	M. RESISTOR CH 1/16W 1.5K	1		TP800, 01	VJR0646	TEST POINT	2	
R1002	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		TP900	VJR0646	TEST POINT	1	
R1003	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		TP903-05	VJR0646	TEST POINT	3	
R1005	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		TP1000, 01	VJR0646	TEST POINT	2	
R1006, 07	ERJ3GEY6472	M. RESISTOR CH 1/16W 4.7K	2		TP1100-05	VJR0646	TEST POINT	6	
R1008	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1						
R1009	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1		VG500	ECV1ZW20X53	TRIMMER	1	
R1010	ERJ3GEY6152	M. RESISTOR CH 1/16W 1.5K	1		VG1000	ECV1ZW20X53	TRIMMER	1	
R1011	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1						
R1013	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		VR300	EVMEGSA00B24	V. RESISTOR 20K	1	
R1014	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		VR301	EVMEGSA00B12	V. RESISTOR 100	1	
R1015	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		VR302-04	EVMEGSA00B13	V. RESISTOR 1K	3	
R1016	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1		VR305, 06	EVMEGSA00B12	V. RESISTOR 100	2	
R1018	ERJ3GEY6822	M. RESISTOR CH 1/16W 8.2K	1		VR307	EVMEGSA00B13	V. RESISTOR 1K	1	
R1019	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		VR400	EVMEGSA00B13	V. RESISTOR 1K	1	
R1020	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1		VR500-02	EVMEGSA00B53	V. RESISTOR 5K	3	
R1021	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		VR503, 04	EVMEGSA00B13	V. RESISTOR 1K	2	
R1022, 23	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2		VR505, 06	EVMEGSA00B23	V. RESISTOR 2K	2	
R1024	ERJ3GEY6332	M. RESISTOR CH 1/16W 3.3K	1		VR507	EVMEGSA00B13	V. RESISTOR 1K	1	
R1025	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		VR800	EVMEGSA00B53	V. RESISTOR 5K	1	
R1026	ERJ3GEY6822	M. RESISTOR CH 1/16W 8.2K	1		VR801	EVMEGSA00B13	V. RESISTOR 1K	1	
R1027	ERJ3GEY6332	M. RESISTOR CH 1/16W 3.3K	1		VR802	EVMEGSA00B53	V. RESISTOR 5K	1	
R1028	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		VR803	EVMEGSA00B13	V. RESISTOR 1K	1	
R1030	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		VR900	EVMEGSA00B24	V. RESISTOR 20K	1	
R1036	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		VR901	EVMEGSA00B14	V. RESISTOR 10K	1	
R1037	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		VR902	EVMEGSA00B53	V. RESISTOR 5K	1	
R1050	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		VR1000	EVMEGSA00B24	V. RESISTOR 20K	1	
R1051	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		VR1050	EVMEGSA00B53	V. RESISTOR 5K	1	
R1052	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		VR1100	EVMEGSA00B53	V. RESISTOR 5K	1	
R1053	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		VR1102	EVMEGSA00B53	V. RESISTOR 5K	1	
R1054	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1						
R1055	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		X900	VXS0270	CRYSTAL OSCILLATOR	1	
R1056	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		X901	VXS0567A	CRYSTAL OSCILLATOR	1	
R1057, 58	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2		X1000	VXS0363	CRYSTAL OSCILLATOR	1	
R1060	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		X1050	VXS0788	CRYSTAL OSCILLATOR	1	
R1061	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1						
R1100	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1				MISCELLANEOUS		
R1101	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1						
R1103	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		VML2143	GARD PULLER	1		
R1104	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1		VML2144	GARD PULLER	1		
R1105	ERJ3GEY682	M. RESISTOR CH 1/16W 6.8K	1						
R1106	ERJ3GEY6472	M. RESISTOR CH 1/16W 4.7K	1						
R1107	ERJ3GEY6152	M. RESISTOR CH 1/16W 1.5K	1						



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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP83353B	F5 REG PB C.B.A.	1	(RTL)
C3101-09	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
C3121	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3122	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3123	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
C3124	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3125, 26	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3127	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3128	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3129	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1	
C3130	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3131	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3132	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3134	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3135	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3136	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C3137, 38	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C3139, 40	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3141	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C3142	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3145	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3146, 47	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3148	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3149	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3150	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1	
C3151	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3152	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3153-62	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	10	
C3171-84	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	14	
C3185	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3191-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	25	
C3216	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3221-28	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3229	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3241	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3242-49	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3250	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3261	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3262	ECUM1H1000CN	C. CAPACITOR CH 50V 10P	1	
C3263	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3264	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3265-68	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3269	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3281-89	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
C3292, 93	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	2	
C3301-18	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	18	
C3319	VGK0151	C. CAPACITOR	1	
C3320	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3321	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3322	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3323	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3324	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3325	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3326	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3327, 28	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3329	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3330	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C3331	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3332	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C3333	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3334	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3335	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3336	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3337	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3341-53	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	13	
C3354	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3361-71	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
C3381-92	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	12	
C3401	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3402	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C3403-12	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	10	
C3421-32	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	12	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3441	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3442-45	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3451-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3459	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3460, 61	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3471-77	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	7	
C3478	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3483-86	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3491-95	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C3501	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3502-04	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
C3506	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3509	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3510	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3511	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C3512	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3513	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3514	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C3515, 16	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3520	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C3521, 22	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3523-25	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	3	
C3601	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3602	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3605	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3701, 02	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3703	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3704, 05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3706	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3707, 08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3709	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3710, 11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3712	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3713, 14	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3715	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3716, 17	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3718	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3719, 20	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3721	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3722, 23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3724	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3731-33	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	3	
D3101	MA715	DIODE	1	
D3102	MA335-R	DIODE	1	
D3103, 04	MA152K	DIODE	2	
D3111, 12	MA701A	DIODE	2	
D3501-03	MA715	DIODE	3	
D3507, 08	MA152K	DIODE	2	
FL3101	VLF1116	FILTER	1	
FL3102	VLF1117	FILTER	1	
FL3103	VLF1118	FILTER	1	
FL3104-06	VLF1016A223	FILTER	3	
IC3001	UPD65841G025	IC	1	
IC3003	MN67372A2	IC	1	
IC3004	MN4707F	IC	1	
IC3005	MN673711	IC	1	
IC3006	M65401FP	IC	1	
IC3007	L7A1433	IC	1	
IC3008	MB81V4260S7	IC	1	
IC3009, 10	L7A1434	IC	2	
IC3011	L7A1433	IC	1	
IC3012	MB81V4260S7	IC	1	
IC3013	MN673711	IC	1	
IC3014	M65401FP	IC	1	
IC3015	M52660FP	IC	1	
IC3016	MN67372A2	IC	1	
IC3017	MN4707F	IC	1	
IC3018-21	UPD42280G3	IC	4	
IC3022	UPD658438026	IC	1	
IC3023	UPD42280G3	IC	1	
IC3024	UPD65868D022	IC	1	
IC3025	UPD71055GB	IC	1	

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Ref.No.	Part No.	Part Name & Description	Pos	Remarks
IC3027, 28	UPD4228083	IC	2	
IC3030	UPD710550B	IC	1	
IC3031	T160641-1437	IC	1	
IC3035	CG25123-5106	IC	1	
IC3036, 37	CY7C19920ZG	IC	2	
IC3101, 02	TCVHC257F	IC	2	
IC3103, 04	T74VHGT244F	IC	2	
IC3105	MC74HC125AF	IC	1	
IC3107	TC7S66F	IC	1	
IC3108, 09	NJM082BM	IC	2	
IC3110	TC7S04F	IC	1	
IC3111, 12	T74F244SJ	IC	2	
IC3113	T74LXG244F	IC	1	
IC3114	MC10H124M	IC	1	
IC3115-17	T74LXG244F	IC	3	
IC3118-20	T74VHC244F	IC	3	
IC3121	MC10H125M	IC	1	
IC3122	T74LXG244F	IC	1	
IC3123-26	T74VHC245F	IC	4	
IC3127	TC7S66F	IC	1	
IC3128	T74VHGT244F	IC	1	
IC3129	MC10H124M	IC	1	
IC3130	TC7S66F	IC	1	
IC3131	T74VHC08F	IC	1	
IC3132	TCVHC257F	IC	1	
IC3133	T74VHGT244F	IC	1	
IC3134-36	T74VHC244F	IC	3	
IC3137	TCVHC164F	IC	1	
IC3138	T74VHC74F	IC	1	
IC3139	TCVHC02F	IC	1	
IC3140	TC7S00F	IC	1	
IC3141-44	74ALS541SJ	IC	4	
IC3145	MC10H125M	IC	1	
IC3146, 47	T74LXG244F	IC	2	
IC3148	T74VHC74F	IC	1	
IC3149, 50	SN74S1051NS	IC	2	
IC3151, 52	74ALS541SJ	IC	2	
IC3153	74ALS245ASJ	IC	1	
IC3154	74AG139SJ	IC	1	
IC3156	T74VHC244F	IC	1	
IC3157	TC7S04F	IC	1	
IC3158	T74VHC244F	IC	1	
IC3159-61	TCVHC257F	IC	3	
IC3162	T74VHC74F	IC	1	
IC3163, 64	T74VHGT244F	IC	2	
IC3165, 66	T74VHC245F	IC	2	
IC3167, 68	T74VHC244F	IC	2	
IC3169	TC7S04F	IC	1	
IC3171	TC7S04F	IC	1	
IC3172	TC7S32F	IC	1	
IC3201	NJM78L09UA	IC	1	
IC3202	NJM79L09UA	IC	1	
IC3203	NJM78L05UA	IC	1	
IC3204, 05	XC62AP3202P	IC	2	
IC3206	XC62AP2302P	IC	1	
IC3207, 08	XC62AP3202P	IC	2	
IC3501	M37709MAL162	IC	1	
IC3502	S80727ANDQ	IC	1	
IC3503	T74VHC08F	IC	1	
IC3504	T74VHCU04F	IC	1	
IC3505	XC62AP3202P	IC	1	
IC3507, 08	TC7S66F	IC	2	
IC3601	M37709MAL162	IC	1	
IC3603	T74VHC08F	IC	1	
L3101-06	VLQ0319K470	COIL	47UH	6
L3107	VLQ0163J3R9	COIL	3.9UH	1
L3108	VLQ0319K470	COIL	47UH	1
L3111	VLQ0163J1R5	COIL	1.5UH	1
L3121-23	VLQ0319K100	COIL	10UH	3
L3131, 32	VLP0133	COIL		2
L3501	VLQ0319K470	COIL	47UH	1
P3001, 02	VJP3454B096	CONNECTOR (MALE)		2
P3003	VJP3418B060	CONNECTOR (MALE)		1

Ref.No.	Part No.	Part Name & Description	Pos	Remarks
Q3001	2SC2295-B	TRANSISTOR	1	
Q3501	2SB709A-R	TRANSISTOR	1	
QR3501	UN2214	TRANSISTOR-RESISTOR	1	
R3101, 02	ERJ66EYOR00	M. RESISTOR CH 1/10W	0	2
R3103-08	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	6
R3109	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3110-13	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	4
R3114	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3115	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	1
R3117	ERJ66EYOR00	M. RESISTOR CH 1/10W	0	1
R3118, 19	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	2
R3121	ERJ66EYOR00	M. RESISTOR CH 1/10W	0	1
R3123, 24	ERJ66EYG101	M. RESISTOR CH 1/10W	100	2
R3125-30	ERJ66EYF472	M. RESISTOR CH 1/10W	4.7K	6
R3132	ERJ66EYOR00	M. RESISTOR CH 1/10W	0	1
R3141, 42	ERJ66EYOR00	M. RESISTOR CH 1/10W	0	2
R3143	ERJ66EYF473	M. RESISTOR CH 1/10W	47K	1
R3145	ERJ66EYF123	M. RESISTOR CH 1/10W	12K	1
R3146, 47	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	2
R3148	ERJ66EYQ273	M. RESISTOR CH 1/10W	27K	1
R3149	ERJ66EYG105	M. RESISTOR CH 1/10W	1M	1
R3150	ERJ66EYG102	M. RESISTOR CH 1/10W	1K	1
R3152, 53	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	2
R3154	ERJ66EYQ223	M. RESISTOR CH 1/10W	22K	1
R3155	ERJ66EYQ272	M. RESISTOR CH 1/10W	2.7K	1
R3156	ERJ66EYQ331	M. RESISTOR CH 1/10W	330	1
R3157	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	1
R3158	ERJ66EYG105	M. RESISTOR CH 1/10W	1M	1
R3159	ERJ66EYJ471	M. RESISTOR CH 1/10W	470	1
R3160	ERJ66EYOR00	M. RESISTOR CH 1/10W	0	1
R3161	ERJ66EYF473	M. RESISTOR CH 1/10W	47K	1
R3162, 63	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	2
R3164	ERJ66EYQ223	M. RESISTOR CH 1/10W	22K	1
R3165	ERJ66EYG105	M. RESISTOR CH 1/10W	1M	1
R3166	ERJ66EYG102	M. RESISTOR CH 1/10W	1K	1
R3167	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3168, 69	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	2
R3171-75	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	5
R3176	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3177-79	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	3
R3182, 83	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	2
R3185-88	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	4
R3189-92	ERJ66EYJ471	M. RESISTOR CH 1/10W	470	4
R3193	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3195-01	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	7
R3202	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3203-06	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	4
R3211	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3212-19	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	8
R3220	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3221-28	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	8
R3241-48	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	8
R3249	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3250-57	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	8
R3258	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3259, 60	ERJ66EYOR00	M. RESISTOR CH 1/10W	0	2
R3271	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3272-75	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	4
R3276-81	ERJ66EYG101	M. RESISTOR CH 1/10W	100	6
R3282, 83	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	2
R3284	ERJ66EYG101	M. RESISTOR CH 1/10W	100	1
R3285-87	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	3
R3289-91	ERJ66EYQ470	M. RESISTOR CH 1/10W	47	3
R3292	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	1
R3294-02	ERJ66EYF472	M. RESISTOR CH 1/10W	4.7K	9
R3303-06	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	4
R3311	ERJ66EYQ223	M. RESISTOR CH 1/10W	22K	1
R3312-22	ERJ66EYOR00	M. RESISTOR CH 1/10W	0	11
R3331	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	1
R3332	ERJ66EYQ331	M. RESISTOR CH 1/10W	330	1
R3333, 34	ERJ66EYQ332	M. RESISTOR CH 1/10W	3.3K	2
R3335-38	ERJ66EYG103	M. RESISTOR CH 1/10W	10K	4

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3339-42	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	4		R3555, 56	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3351	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R3572-74	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	3	
R3352	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1		R3576-94	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	19	
R3353	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1		R3597, 98	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3361, 62	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2		R3601, 02	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R3363	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1		R3603-07	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	5	
R3364	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1		R3609, 10	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R3365-69	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	5		R3612, 13	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3370, 71	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2		R3614	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3372-74	ERDS2TJ273	G. RESISTOR 1/4W 27K	3		R3615	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3382	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R3616, 17	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R3383	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R3618	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3384-89	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	6		R3621, 22	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3390	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R3623, 24	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R3393	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		R3625	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3394	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1		R3627	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3397	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		R3628	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3398	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1		R3629	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3399	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R3632, 33	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3400	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1		R3639-49	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	11	
R3401	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1		R3651	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3404	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		R3652, 53	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R3405	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1		R3654, 55	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R3411	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R3656, 57	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R3422	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R3673-75	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	3	
R3424-27	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	4		R3701	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3428	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R3703	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3429-31	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	3		R3708	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3434-36	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3		R3709	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3437	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R3710	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3454	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R3722	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R3456	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1		R3725-32	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	8	
R3461	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R3737-39	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3	
R3463, 64	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2		R3743-46	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	4	
R3471	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R3747-51	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	5	
R3472	ERJ6GEYG271	M. RESISTOR CH 1/10W 270	1		R3752	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3473	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R3753	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3481	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R3754	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3483-88	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	6		R3761, 62	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R3491, 92	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2		R3763-66	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	4	
R3495	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R3767-74	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	8	
R3499	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R3775	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R3501	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1		R3776	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3502, 03	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	2		R3777	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3504, 05	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2		R3781-88	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	8	
R3506, 07	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2		R3789-94	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	6	
R3508-10	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	3		R3795-09	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	15	
R3511	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		R3811-13	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	3	
R3512-14	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	3		R3815, 16	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3515	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		R3818	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3517-19	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	3		R3820	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3520	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R3823, 24	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R3521, 22	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2		R3825-32	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	8	
R3523	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1		R3851, 52	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R3524	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		R3853	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R3525	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1		R3861-66	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	6	
R3527, 28	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2		R3869-84	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	16	
R3529	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R3885	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R3530	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R3887, 88	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R3531, 32	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2		R3889	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R3533	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R3890, 91	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R3534	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R3892-07	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	16	
R3535, 36	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2		R3908	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R3537	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1						
R3538	ERJ6GEYG271	M. RESISTOR CH 1/10W 270	1		SW3101	VSS0367-04B	SWITCH	1	
R3539, 40	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2		SW3102	VSS0367-08B	SWITCH	1	
R3541, 42	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2						
R3544	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1		TG3101	VJR0646	TEST POINT	1	
R3545	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		TG3102	EYF6CU	TEST POINT	1	
R3546	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1		TG3501	EYF6CU	TEST POINT	1	
R3547	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1						
R3548	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1		TP3101-06	EYF6CU	TEST POINT	6	
R3549	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		TP3108-12	EYF6CU	TEST POINT	5	
R3551	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		TP3113	VJR0646	TEST POINT	1	
R3552	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1		TP3114	EYF6CU	TEST POINT	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
TP3501, 02	EYF6CU	TEST POINT	2	
TP3601, 02	EYF6CU	TEST POINT	2	
VC3001	ECV1ZW50X53T	TRIMMER	1	
VR3101-03	EVMEGSA00B24	V. RESISTOR 20K	3	
X3102	VXS0789	CRYSTAL OSCILLATOR	1	
X3103	VXS0645	CRYSTAL OSCILLATOR	1	
X3501	VXS0637	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	CARD PULLER	1	
	VML2144	CARD PULLER	1	
	■ VEP83355B	F6 V IN C.B.A.	1 (RTL)	
G51-54	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G55	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G56	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G57	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G58-64	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	7	
G65	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G66	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G67	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G68-70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G101-11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
G151-59	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
G160	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G201-08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
G210	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
G211	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
G212-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G251-54	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	4	
G255-60	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	6	
G261	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
G262, 63	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G264	ECEV1EV47Q	E. CAPACITOR CH 25V 4.7U	1	
G265-68	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G269, 70	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G271-76	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	6	
G277	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
G278	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
G279, 80	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G281	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
G283	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G284	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G285	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G286	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G287	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
G288, 89	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G290	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	1	
G301, 02	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G303-06	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	4	
G307	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G308-11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G312	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
G313	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G315	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G317-21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
G322	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
G324-26	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G327	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G328, 29	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G330	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G331-33	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G334	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
G351-54	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G355-57	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	3	
G358-61	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G363, 64	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G365, 66	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C368-76	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
C378	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C380	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
C381	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C383	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C386, 87	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C389	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C390, 91	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C392	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C393	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
C394	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C395	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C396	ECUM1H070DCN	C. CAPACITOR CH 50V 7P	1	
C397	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C398	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
C399	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
C400	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C401	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
C402	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C403-05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C406	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C410-13	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C414	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C415, 16	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C417	ECEV1HV47Q	E. CAPACITOR CH 50V 4.7U	1	
C418-20	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	3	
C421-23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C424	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
C425	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
C426	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C427, 28	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C429	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C430	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C431	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
C432	ECEV1HNR47Q	E. CAPACITOR CH 50V 0.47U	1	
C433	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C434	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C435-39	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C440	ECUM1H560JCN	C. CAPACITOR CH 50V 56P	1	
C442	ECUM1H070DCN	C. CAPACITOR CH 50V 7P	1	
C443	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C451	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C452-55	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	4	
C456-60	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C461-64	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	4	
C465	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C466-70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C471, 72	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C473	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C474	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C475	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C476	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C477	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C478-80	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	3	
C481, 82	ECUM1H040CCN	C. CAPACITOR CH 50V 4P	2	
C483, 84	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C485, 86	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	2	
C487-90	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	4	
C491, 92	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C493-96	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	4	
C497-00	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	4	
C501, 02	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C503-06	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	4	
C510	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C511-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C516	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C517	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C518, 19	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C520, 21	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C523	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	1	
C524, 25	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C526	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C527-30	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	4	
C531, 32	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C551, 52	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C553	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		G752	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C554	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1		G753-55	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C555, 56	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		G756	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C557	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		G757-59	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C558, 59	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		G760, 61	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C560	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1		G762	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C561	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1		G763	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C562	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1		G764	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C563	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		G765	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C564	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1		G766, 67	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C565	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1		G768	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C566	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		G769	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C567	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1		G770	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C568	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1		G771, 72	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C569, 70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		G775	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C571	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		G776	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C572	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		G778	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C573	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		G779	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C576	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		G780	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C578	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		G781	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
C579, 80	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	2		G782	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
G601, 02	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2		G783, 84	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G603-05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		G785	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
G651	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1		G786-88	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G652-54	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		G789	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
G655	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1		G790-92	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G656-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		G801-11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
G659, 60	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2		G852-55	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G661, 62	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		G856	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
G663, 64	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2		G857	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
G665	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		G858-67	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	10	
G666	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1						
G667	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		D251, 52	MA152K	DIODE	2	
G668, 69	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2		D253	MA152WK	DIODE	1	
G671	ECUM1H010GCN	C. CAPACITOR CH 50V 1P	1		D301, 02	MA152K	DIODE	2	
G672	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		D451	MA152K	DIODE	1	
G673	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D501	MA152WK	DIODE	1	
G675	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		D551	MA152K	DIODE	1	
G676	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D552	MA335-R	DIODE	1	
G677	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		D553	MA152WA	DIODE	1	
G678	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1		D651, 52	MA152K	DIODE	2	
G679	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		D701, 02	MA152K	DIODE	2	
G680, 81	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		D751, 52	MA152K	DIODE	2	
G682	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1						
G683-85	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		FL51, 52	VLF1016A223	FILTER	2	
G686	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1		FL251	VLF1294	FILTER	1	
G687-89	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		FL301	VLF1016A223	FILTER	1	
G701	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1		FL351	VLF1016A223	FILTER	1	
G702	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		FL551, 52	VLF1016A223	FILTER	2	
G703-05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		FL651	VLF1294	FILTER	1	
G706	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1		FL652	VLF1016A223	FILTER	1	
G707-09	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		FL701	VLF1295	FILTER	1	
G710, 11	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2		FL702	VLF1016A223	FILTER	1	
G712	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1		FL751	VLF1295	FILTER	1	
G713	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		FL752	VLF1016A223	FILTER	1	
G714	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		FL801	VLF1016A223	FILTER	1	
G715	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		FL851, 52	VLF1016A223	FILTER	2	
G716, 17	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2						
G718	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		IC51	AN78N09	IC	1	
G719	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1		IC52	AN78N05	IC	1	
G720	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		IC53	AN79N09	IC	1	
G721, 22	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2		IC54	AN79N05	IC	1	
G725	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		IC101-03	MC10H125M	IC	3	
G726	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1		IC107	MC10H125M	IC	1	
G728	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		IC109	74F821SC	IC	1	
G729	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1		IC110	74F244SJ	IC	1	
G730	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		IC111	T74HCT541AF	IC	1	
G731	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1		IC151, 52	SN74S1051NS	IC	2	
G732	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		IC153-55	74ALS541SJ	IC	3	
G733, 34	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		IC156	74ALS245ASJ	IC	1	
G735	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1		IC161	74AC139SJ	IC	1	
G736-38	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		IC164, 65	UPD710556B	IC	2	
G739	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1		IC201	VS12402	IC	1	
G740-42	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		IC202	VS12382	IC	1	
G751	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1		IC203	T74HCT541AF	IC	1	



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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC204	T74HCT374AF	IC	1	
IC205	74F574SJ	IC	1	
IC210	T74HCT374AF	IC	1	
IC251	DAC10GS	IC	1	
IC252	NJM082BM	IC	1	
IC254	EL2082GS	IC	1	
IC255	NJM78L05UA	IC	1	
IC256	NJM79L05UA	IC	1	
IC257	TC4W53F	IC	1	
IC258	AN91A12S	IC	1	
IC259	MC74HC00AF	IC	1	
IC301	NJM79L05UA	IC	1	
IC302	NJM78L05UA	IC	1	
IC303	NJM084M	IC	1	
IC304	AD818AR	IC	1	
IC308	CXD1175AM	IC	1	
IC309	NJM78L05UA	IC	1	
IC351, 52	NJM78L05UA	IC	2	
IC353	NJM79L05UA	IC	1	
IC354	CXD2105AQ	IC	1	
IC355	AD8047AR	IC	1	
IC356	MC74HC4053F	IC	1	
IC357, 58	AD8047AR	IC	2	
IC359	MC74HC4053F	IC	1	
IC401	SN74LS221NS	IC	1	
IC402, 03	MM74HC221AM	IC	2	
IC404	MC74HC04AF	IC	1	
IC406	NJM78L05UA	IC	1	
IC407	NJM79L05UA	IC	1	
IC410	NJM082BM	IC	1	
IC414	MC74HC4053F	IC	1	
IC418	NJM082BM	IC	1	
IC419	MC74HC4053F	IC	1	
IC423	NJM082BM	IC	1	
IC428	UPD65013BC16	IC	1	
IC451	NJM319M	IC	1	
IC452, 53	NJM1496M	IC	2	
IC455, 56	MC74HC4053F	IC	2	
IC459	NJM78L05UA	IC	1	
IC460	NJM79L05UA	IC	1	
IC501	NJM78L05UA	IC	1	
IC502	NJM79L05UA	IC	1	
IC503	AN91A12S	IC	1	
IC504	MC14538BF	IC	1	
IC507	MN53015VZW	IC	1	
IC551	MC74HC00AF	IC	1	
IC552	TC4S584F	IC	1	
IC554	MC74HC74AF	IC	1	
IC557	SN74LS221NS	IC	1	
IC560	NJM082BM	IC	1	
IC561	TC4W53F	IC	1	
IC562	SN74LS221NS	IC	1	
IC567	MC74HC244AF	IC	1	
IC651	NJM78L05UA	IC	1	
IC652	NJM79L05UA	IC	1	
IC653	MC74HC4053F	IC	1	
IC655	NJM084M	IC	1	
IC656	AD848JR	IC	1	
IC660	CXD1175AM	IC	1	
IC661	NJM78L05UA	IC	1	
IC701	NJM78L05UA	IC	1	
IC702	NJM79L05UA	IC	1	
IC703	MC74HC4053F	IC	1	
IC705	NJM084M	IC	1	
IC706	AD848JR	IC	1	
IC710	CXD1175AM	IC	1	
IC711	NJM78L05UA	IC	1	
IC751	NJM78L05UA	IC	1	
IC752	NJM79L05UA	IC	1	
IC753	MC74HC4053F	IC	1	
IC755	NJM084M	IC	1	
IC756	AD848JR	IC	1	
IC760	CXD1175AM	IC	1	
IC761	NJM78L05UA	IC	1	
IC801	UPD42280G3	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC802	T160641-1437	IC	1	
IC803	UPD42280G3	IC	1	
IC804	MC74HC153F	IC	1	
IC851	MC74HC4053F	IC	1	
IC853	74F244SJ	IC	1	
IC854	CG25123-5106	IC	1	
IC855, 56	CY7C19920ZC	IC	2	
IC857, 58	74F244SJ	IC	2	
L1, L2	VLP0133	COIL	2	
L51, 52	VLP0133	COIL	2	
L251-54	VLQ0319K101	COIL 100UH	4	
L255	VLQ0133J471	COIL 470UH	1	
L256	VLQ0319K101	COIL 100UH	1	
L301, 02	VLQ0319K101	COIL 100UH	2	
L351, 52	VLQ0319K101	COIL 100UH	2	
L354	VLQ0163J270	COIL 27UH	1	
L355	VLQ0163J6R8	COIL 6.8UH	1	
L356	VLQ0163J5R6	COIL 5.6UH	1	
L401	VLQ0319K101	COIL 100UH	1	
L451-55	VLQ0319K101	COIL 100UH	5	
L456	VLQ0163J470	COIL 47UH	1	
L457, 58	VLQ0163J560	COIL 56UH	2	
L501	VLQ0133J391	COIL 390UH	1	
L551	VLQ0163J3R3	COIL 3.3UH	1	
L601, 02	VLQ0319K101	COIL 100UH	2	
L651	VLQ0133J821	COIL 820UH	1	
L652	VLQ0319K101	COIL 100UH	1	
L701	VLQ0133J821	COIL 820UH	1	
L702	VLQ0319K101	COIL 100UH	1	
L751	VLQ0133J821	COIL 820UH	1	
L752	VLQ0319K101	COIL 100UH	1	
P1, P2	VJP3454B096	CONNECTOR (MALE)	2	
Q251	2SB709A-R	TRANSISTOR	1	
Q252, 53	2SD601A-R	TRANSISTOR	2	
Q301	2SB709A-R	TRANSISTOR	1	
Q302	2SD601A-R	TRANSISTOR	1	
Q303	2SK374-R	TRANSISTOR	1	
Q351	2SD601A-R	TRANSISTOR	1	
Q352	2SB709A-R	TRANSISTOR	1	
Q401, 02	2SD601A-R	TRANSISTOR	2	
Q451-54	2SD601A-R	TRANSISTOR	4	
Q455-58	2SB709A-R	TRANSISTOR	4	
Q459-67	2SD601A-R	TRANSISTOR	9	
Q551	2SC3757-R	TRANSISTOR	1	
Q552, 53	2SA1226	TRANSISTOR	2	
Q554	2SC3757-R	TRANSISTOR	1	
Q601-03	2SB709A-R	TRANSISTOR	3	
Q604	XN1213	TRANSISTOR-TRANSISTOR	1	
Q605	2SC3757-R	TRANSISTOR	1	
Q606-08	2SD601A-R	TRANSISTOR	3	
Q651	2SD601A-R	TRANSISTOR	1	
Q652-54	2SB709A-R	TRANSISTOR	3	
Q655	2SD601A-R	TRANSISTOR	1	
Q656	2SK374-R	TRANSISTOR	1	
Q701	2SD601A-R	TRANSISTOR	1	
Q702	2SB709A-R	TRANSISTOR	1	
Q703	2SD601A-R	TRANSISTOR	1	
Q704	2SB709A-R	TRANSISTOR	1	
Q705	2SD601A-R	TRANSISTOR	1	
Q706	2SK374-R	TRANSISTOR	1	
Q751	2SD601A-R	TRANSISTOR	1	
Q752	2SB709A-R	TRANSISTOR	1	
Q753	2SD601A-R	TRANSISTOR	1	
Q754	2SB709A-R	TRANSISTOR	1	
Q755	2SD601A-R	TRANSISTOR	1	
Q756	2SK374-R	TRANSISTOR	1	
QR151	MRN1403	TRANSISTOR	1	
QR501	MRN1403	TRANSISTOR	1	
R1-55	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	55	
R101-12	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	12	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R113	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R395	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R115-17	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3		R401	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R151-53	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3		R402	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R154-58	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	5		R403	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R159, 60	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		R404	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R202, 03	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2		R405	ERJ6GEY0272	M. RESISTOR CH 1/10W 2.7K	1	
R212	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R406	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R213	ERJ6GEY0181	M. RESISTOR CH 1/10W 180	1		R407	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R214	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R408	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R216	ERJ6GEY0680	M. RESISTOR CH 1/10W 68	1		R409	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R217	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R410-12	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R218	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R413	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R251	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1		R414	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R252	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R415	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R253	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1		R416	ERJ6GEYJ274	M. RESISTOR CH 1/10W 270K	1	
R254	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R417	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R255	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R418	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R256	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1		R419	ERJ6GEY0394	M. RESISTOR CH 1/10W 390K	1	
R257	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R420, 21	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R258, 59	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	2		R422	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R260	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R423, 24	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R261	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1		R426, 27	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R262, 63	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2		R428	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R264	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		R429	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R265	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R430	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R266, 67	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2		R431	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R268	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	1		R432	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R269	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1		R433, 34	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R270	ERJ6GEYJ684	M. RESISTOR CH 1/10W 680K	1		R435, 36	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R271-73	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3		R439, 40	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R274	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R441, 42	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R275	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1		R446	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R301	ERJ6GEY0394	M. RESISTOR CH 1/10W 390K	1		R448, 49	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R302	ERJ6GEY0154	M. RESISTOR CH 1/10W 150K	1		R451	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R303	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		R452	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R304	ERJ6GEY0220	M. RESISTOR CH 1/10W 22	1		R453	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R305	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R454	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R307	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1		R455	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1	
R308	ERJ6GEY0122	M. RESISTOR CH 1/10W 1.2K	1		R456	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R309, 10	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2		R457	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R311	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R458, 59	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R313, 14	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2		R460, 61	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
R316, 17	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		R462	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R318	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R463	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R319	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1		R464, 65	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
R351	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R466	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R353	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1		R467	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R354	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1		R468, 69	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	2	
R355	ERJ6GEY0121	M. RESISTOR CH 1/10W 120	1		R470	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R356	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1		R471-74	ERJ6GEY0121	M. RESISTOR CH 1/10W 120	4	
R357, 58	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2		R475-78	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	4	
R359	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1		R479	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R360	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		R480, 81	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R362	ERJ6GEY0560	M. RESISTOR CH 1/10W 56	1		R482, 83	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R363	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R484, 85	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
R365	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R486, 87	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R366	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	1		R488-91	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	4	
R367	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R492-99	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	8	
R368	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1		R500-03	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	4	
R369	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1		R504-07	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	4	
R370	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R508-11	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	4	
R371	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R512-15	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	4	
R373	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1		R516-19	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	4	
R375	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1		R520-23	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	4	
R376	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R526	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R377	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1		R527	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R379	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1		R528	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R380	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R530	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R381, 82	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2		R531-33	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	3	
R384	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1		R534	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R385	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R535	ERJ6GEYJ684	M. RESISTOR CH 1/10W 680K	1	
R386	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R536-38	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R387, 88	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2		R539	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R391	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R540, 41	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R393	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R543, 44	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R546	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R547	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R548	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R551	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R552	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R553	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R554	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R555	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R556	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R557, 58	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R559, 60	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R561	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R562	ERJ6GEYG273	M. RESISTOR CH 1/10W 27K	1	
R563	ERJ6GEYG153	M. RESISTOR CH 1/10W 15K	1	
R564	ERJ6GEYG683	M. RESISTOR CH 1/10W 68K	1	
R565	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R566	ERJ6GEYG681	M. RESISTOR CH 1/10W 680	1	
R567	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R571	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R572	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R573, 74	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	2	
R575	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R576	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R577	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R578	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R579	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R581	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R582	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R583, 84	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R586	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R601-03	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	3	
R604-06	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	3	
R607	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R608	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R609, 10	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	2	
R611	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R612	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R613	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R614, 15	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	2	
R616-18	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	3	
R651	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R652	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R653	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R654	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R655	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R656	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R657	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R658	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R659	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	1	
R660	ERJ6GEYG154	M. RESISTOR CH 1/10W 150K	1	
R661	ERJ6GEYG181	M. RESISTOR CH 1/10W 180	1	
R662	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R664, 65	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	2	
R666	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R667	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R668, 69	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R670	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R671	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R672	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R673	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R674	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R675	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R676	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R701	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R702	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R703	ERJ6GEYG273	M. RESISTOR CH 1/10W 27K	1	
R704	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R705, 06	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R707, 08	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	2	
R709	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R710	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R711	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R712	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	1	
R713	ERJ6GEYJ274	M. RESISTOR CH 1/10W 270K	1	
R714	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R715	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R717	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	1	
R718	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R719	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R720	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R721, 22	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R723	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R724	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R725	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R726	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R727, 28	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	2	
R729	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R751	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R752	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R753	ERJ6GEYG273	M. RESISTOR CH 1/10W 27K	1	
R754	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R755, 56	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R757, 58	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	2	
R759	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R760	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R761	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R762	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	1	
R763	ERJ6GEYJ274	M. RESISTOR CH 1/10W 270K	1	
R764	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1	
R765	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R767	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	1	
R768	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R769	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R770	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R771, 72	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R773	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R774	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R775	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R776	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R777, 78	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	2	
R779	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R801	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R803	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R806	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R807	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R808-15	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	8	
R816-22	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	7	
R823	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R851	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R852	ERJ6GEYG271	M. RESISTOR CH 1/10W 270	1	
R853	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R870-73	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	4	
T01-06	VJR0646	TEST POINT	6	
TP301	VJR0646	TEST POINT	1	
TP401	VJR0646	TEST POINT	1	
TP402	EYF60U	TEST POINT	1	
TP403-05	VJR0646	TEST POINT	3	
TP451	VJR0646	TEST POINT	1	
TP551-53	VJR0646	TEST POINT	3	
TP651	VJR0646	TEST POINT	1	
TP701	VJR0646	TEST POINT	1	
TP751	VJR0646	TEST POINT	1	
VL551	VL00415	COIL	1	
VR251	VRV0064B502	V. RESISTOR	5K 1	
VR301	VRV0064B502	V. RESISTOR	5K 1	
VR351	VRV0112B101	V. RESISTOR	100K 1	
VR352	VRV0064B201	V. RESISTOR	200 1	
VR353, 54	VRV0064B501	V. RESISTOR	500 2	
VR406, 07	VRV0064B102	V. RESISTOR	1K 2	
VR408-10	VRV0064B502	V. RESISTOR	5K 3	
VR459-66	VRV0064B102	V. RESISTOR	1K 8	
VR551	VRV0064B202	V. RESISTOR	2K 1	
VR552	VRV0064B502	V. RESISTOR	5K 1	
VR651	VRV0064B102	V. RESISTOR	1K 1	
VR652	VRV0064B502	V. RESISTOR	5K 1	
VR701, 02	VRV0064B102	V. RESISTOR	1K 2	



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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
VR703	VRV0064B502	V. RESISTOR	5K 1		IC37	74ALS245ASJ	IC	1	
VR751, 52	VRV0064B102	V. RESISTOR	1K 2		IC38	SN74S1051NS	IC	1	
VR753	VRV0064B502	V. RESISTOR	5K 1		IC39, 40	74ALS541SJ	IC	2	
X401	VSX0270	CRYSTAL OSCILLATOR	1		IC41	MC74HC32AF	IC	1	
		MISCELLANEOUS			IC42	MC74HC138AF	IC	1	
	VML2143	GARD PULLER	1		IC43	UPD71055GB	IC	1	
	VML2144	GARD PULLER	1		IC44, 45	MC74HC74AF	IC	2	
					IC46	MC74HC04AF	IC	1	
					IC50	T74HCT541AF	IC	1	
					IC51	MC74HC74AF	IC	1	
					IC52	MC74HC157AF	IC	1	
					IC53	MC74HC138AF	IC	1	
					IC54	MC74HC08AF	IC	1	
	VEP84292A	F7 A PROC C.B.A.	1 (RTL)		IC55	MB621926	IC	1	
					IC56	K6256CLG7L	IC	1	
					IC57	MC74HC157AF	IC	1	
					IC58	UPD71055GB	IC	1	
C1, C2	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2		L1, L2	VLP0133	COIL	2	
C3	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		L3	VLQ0426J1R8	COIL	1.8UH 1	
C4, C5	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2						
C6	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		P1, P2	VJP3454B086	CONNECTOR (MALE)	2	
C7	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1		P3	VJP3635A068	CONNECTOR (MALE)	1	
C8	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1						
C9	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1		R1-R8	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	8	
C10	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		R9	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
C20-23	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	4		R10	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
C25, 26	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2		R11	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
C27	EGUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1		R12	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
C40	EGUM1H180JCN	C. CAPACITOR CH 50V 18P	1		R13, 14	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	2	
C41	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		R15-22	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	8	
C42	EGUM1H180JCN	C. CAPACITOR CH 50V 18P	1		R23	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
C43-49	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	7		R24, 25	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
C60-64	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	5		R26-28	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	3	
C65	EGUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1		R29	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
C66	EGUM1H100DCN	C. CAPACITOR CH 50V 10P	1		R30-36	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	7	
C67	EGUM1H150JCN	C. CAPACITOR CH 50V 15P	1		R37	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
C68-73	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	6		R38-45	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	8	
C80, 81	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2		R46, 47	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
C82-86	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	5		R49	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
C87-89	ECEV1HVR1Q	E. CAPACITOR CH 50V 0.1U	3		R50	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
C90	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		R51	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
C91	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		R52-56	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	5	
C92	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		R57-59	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	3	
C93	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		R60	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
C94	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		R61	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
C96, 97	EGUM1H470JCN	C. CAPACITOR CH 50V 47P	2		R62	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
C100-02	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3		R66-69	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	4	
C110-24	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	15		R70-74	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	5	
C130-39	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	10		R76	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
FL2	VLF1016A470	FILTER	1		R78	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
IC1, C2	MC74HC541AF	IC	2		R80, 81	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	2	
IC4	MC10H125M	IC	1		R82	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
IC5	MC74HC153F	IC	1		R83	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
IC6, C7	MC74HC541AF	IC	2		R84, 85	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
IC8	MC10H124M	IC	1		R86, 87	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
IC9	MC74HC157AF	IC	1		R88-91	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	4	
IC10	AD1893JST	IC	1		R100	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
IC11	K6256CLG7L	IC	1		R103, 04	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	2	
IC12	T16GH7AF1216	IC	1		R110-32	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	23	
IC13	K6256CLG7L	IC	1		R133-36	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	4	
IC14	MN53030VPR	IC	1		R137-40	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	4	
IC15, 16	K6256CLG7L	IC	2		R141-46	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	6	
IC17	74AC04SJ	IC	1		R147-50	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	4	
IC18, 19	74AC374SJ	IC	2		R151-55	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	5	
IC20	TMSD72274PH	IC	1		R163-65	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	3	
IC23	MC74HC4075F	IC	1		R170-78	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	9	
IC24	NJM78L05UA	IC	1		R180-85	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	6	
IC25	MC4044M	IC	1		R187-90	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	4	
IC26	74AC04SJ	IC	1		R194-96	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	3	
IC27	NJM78L05UA	IC	1						
IC28	MC4044M	IC	1		TG1-G3	VJR0646	TEST POINT	3	
IC30, 31	MC74HC541AF	IC	2						
IC34	MC74HC04AF	IC	1		TP1-P8	VJR0646	TEST POINT	8	
IC35	SN74S1051NS	IC	1		TP10-20	EYF6CU	TEST POINT	11	
IC36	74ALS541SJ	IC	1						

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
X1	VXS0519	CRYSTAL OSCILLATOR	1	
X2	VXS0453	CRYSTAL OSCILLATOR	1	
X3	VXS0450	CRYSTAL OSCILLATOR	1	
X4	VXS0391	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	GARD PULLER	1	
	VML2144	GARD PULLER	1	
	VEP84293B	F8 ADDA C.B.A.	1	(RTL)
C4001-04	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4	
C4005, 06	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4007, 08	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4009, 10	ECEA1HGE330	E. CAPACITOR 50V 33U	2	
C4023, 24	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C4061-64	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4	
C4065, 66	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4067, 68	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4069, 70	ECEA1HGE330	E. CAPACITOR 50V 33U	2	
C4083, 84	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C4121	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4122	ECUM1H820JCN	G. CAPACITOR CH 50V 82P	1	
C4123	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4124	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4125	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4126	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4127, 28	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C4129	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4130	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4131	ECEV0JV101Q	E. CAPACITOR CH 6.3V 100U	1	
C4132	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4133	ECUM1H330JCN	G. CAPACITOR CH 50V 33P	1	
C4134	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4135	ECUM1H330JCN	G. CAPACITOR CH 50V 33P	1	
C4136	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4137, 38	ECEV0JV470Q	E. CAPACITOR CH 6.3V 47U	2	
C4139, 40	ECUM1H820JCN	G. CAPACITOR CH 50V 82P	2	
C4141, 42	ECUM1H330JCN	G. CAPACITOR CH 50V 33P	2	
C4143, 44	ECUM1H222KBN	G. CAPACITOR CH 50V 2200P	2	
C4145-48	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4	
C4149	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4150	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4151	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	1	
C4152, 53	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C4154, 55	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	2	
C4158	ECUM1H151JCN	G. CAPACITOR CH 50V 150P	1	
C4160	ECUM1H151JCN	G. CAPACITOR CH 50V 150P	1	
C4162	ECUM1H104ZFN	G. CAPACITOR CH 50V 0.1U	1	
C4163, 64	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C4167	ECUM1H102JCN	G. CAPACITOR CH 50V 1000P	1	
C4169	ECUM1H221JCN	G. CAPACITOR CH 50V 220P	1	
C4171	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	
C4180	ECCF1H331J	G. CAPACITOR 50V 330P	1	
C4191	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4192	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4193	ECEV0JV101Q	E. CAPACITOR CH 6.3V 100U	1	
C4194-96	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
C4197	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4198	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4199	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4200	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C4201-03	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
C4204	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4205	ECEV0JV101Q	E. CAPACITOR CH 6.3V 100U	1	
C4206	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	
C4208, 09	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	2	
C4211	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	
C4221-24	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4	
C4225, 26	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4227	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4228, 29	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4230, 31	ECUM1H470JCN	G. CAPACITOR CH 50V 47P	2	
C4232, 33	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4234-37	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	4	
C4238, 39	ECEA1GGE221	E. CAPACITOR 16V 220U	2	
C4240	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4241	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C4242, 43	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4244, 45	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4246, 47	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4248	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C4249	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4250, 51	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C4281	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	
C4282, 83	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4284, 85	ECUM1H470JCN	G. CAPACITOR CH 50V 47P	2	
C4286, 87	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4288-91	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	4	
C4292, 93	ECEA1GGE221	E. CAPACITOR 16V 220U	2	
C4294	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4295	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C4296, 97	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4298, 99	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4300, 01	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4302	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C4303	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4304, 05	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C4341	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4342, 43	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4344-47	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4	
C4348, 49	ECEV0JV101Q	E. CAPACITOR CH 6.3V 100U	2	
C4350, 51	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4352	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	
C4353, 54	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4355, 56	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4357, 58	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4359, 60	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4381	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C4382	ECUM1H822KBN	G. CAPACITOR CH 50V 8200P	1	
C4383	ECUM1H222KBN	G. CAPACITOR CH 50V 2200P	1	
C4384	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C4385	VCC0030	G. CAPACITOR	1	
C4386	ECUM1H822KBN	G. CAPACITOR CH 50V 8200P	1	
C4387	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C4388	ECUM1H272KBN	G. CAPACITOR CH 50V 2700P	1	
C4389	ECUM1H182KBN	G. CAPACITOR CH 50V 1800P	1	
C4390	ECUM1H151JCN	G. CAPACITOR CH 50V 150P	1	
C4391	ECUM1H272KBN	G. CAPACITOR CH 50V 2700P	1	
C4392	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C4393	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4394	ECUM1H390JCN	G. CAPACITOR CH 50V 39P	1	
C4395	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C4396	ECUM1H273KBN	G. CAPACITOR CH 50V 0.027U	1	
C4397	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4398	ECUM1E473KBN	G. CAPACITOR CH 25V 0.047U	1	
C4399	ECUM1C394KBM	G. CAPACITOR CH 16V 0.39U	1	
C4400	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4401, 02	ECHU1C104J	P. CAPACITOR 16V 0.1U	2	
C4403	ECUM1C224KBM	G. CAPACITOR CH 16V 0.22U	1	
C4404	ECUM1C394KBM	G. CAPACITOR CH 16V 0.39U	1	
C4405	ECHU1C104J	P. CAPACITOR 16V 0.1U	1	
C4406	ECUM1C394KBM	G. CAPACITOR CH 16V 0.39U	1	
C4407	ECUM1H102KBN	G. CAPACITOR CH 50V 1000P	1	
C4408	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4409	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4410	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4411	ECUM1H333KBN	G. CAPACITOR CH 50V 0.033U	1	
C4412	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	1	
C4413	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4414	ECEV0JV101Q	E. CAPACITOR CH 6.3V 100U	1	
C4415	EGST1VY684Z	T. CAPACITOR CH 35V 0.68U	1	
C4416, 17	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C4418, 19	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	2	
C4420, 21	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C4422	ECUM1H102KBN	G. CAPACITOR CH 50V 1000P	1	

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Ref. No.	Part No.	Part Name & Description	Pos	Remarks	Ref. No.	Part No.	Part Name & Description	Pos	Remarks
C4423	ECUM1H222KBN	G. CAPACITOR CH 50V 2200P	1		IC4221	NJM78L05UA	IC	1	
C4424, 25	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2		IC4222	NJM78L05UA	IC	1	
C4426, 27	ECEVICV470Q	E. CAPACITOR CH 16V 47U	2		IC4223	NJM4580ED	IC	1	
C4428	ECEVIEN4R7Q	E. CAPACITOR CH 25V 4.7U	1		IC4224	MC14052BF	IC	1	
C4429	ECU1C104J	P. CAPACITOR 16V 0.1U	1		IC4225	NJM2043MD	IC	1	
C4430	ECUM1G105KBM	G. CAPACITOR CH 16V 1U	1		IC4226	MC14053BF	IC	1	
C4461, 62	ECEVIEN4R7Q	E. CAPACITOR CH 25V 4.7U	2		IC4281	NJM4580ED	IC	1	
C4463	ECEVOJV220Q	E. CAPACITOR CH 6.3V 22U	1		IC4282	MC14052BF	IC	1	
C4464	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1		IC4283	NJM2043MD	IC	1	
C4465-67	ECEVIEN4R7Q	E. CAPACITOR CH 25V 4.7U	3		IC4284	MC14053BF	IC	1	
C4468	ECEVICV220Q	E. CAPACITOR CH 16V 22U	1		IC4341, 42	NJM4580ED	IC	2	
C4469-72	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4		IC4343	NJM4556AM	IC	1	
C4473	ECEVICV220Q	E. CAPACITOR CH 16V 22U	1		IC4344	MC14052BF	IC	1	
C4474, 75	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2		IC4345	NJM4580ED	IC	1	
C4501-03	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3		IC4381	NJM4580ED	IC	1	
C4504	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1		IC4382	MC14053BF	IC	1	
C4505, 06	ECUM1C474KBM	G. CAPACITOR CH 16V 0.47U	2		IC4383	CXA1102M	IC	1	
C4507	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		IC4384, 85	NJM4580ED	IC	2	
C4508, 09	ECUM1H472KBN	G. CAPACITOR CH 50V 4700P	2		IC4386	MC14052BF	IC	1	
C4510	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1		IC4388	NJM4580ED	IC	1	
C4511	ECEVIH4R7Q	E. CAPACITOR CH 50V 4.7U	1		IC4389	AN78N09	IC	1	
C4512	ECUM1H222KBN	G. CAPACITOR CH 50V 0.022U	1		IC4390	AN78N09	IC	1	
C4513	VCF2JAB681J	G. CAPACITOR 630V 680P	1		IC4391, 92	NJM4580ED	IC	2	
C4514, 15	ECUM1C474KBM	G. CAPACITOR CH 16V 0.47U	2		IC4461-63	NJM4580ED	IC	3	
C4516, 17	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2		IC4464	NJM78L05UA	IC	1	
C4518	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1		IC4465	NJM78L05UA	IC	1	
C4519	ECEVICV220Q	E. CAPACITOR CH 16V 22U	1		IC4466	MC14053BF	IC	1	
C4520	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		IC4501	AN78N09	IC	1	
C4521	VCF28AB682J	G. CAPACITOR 400V 6800P	1		IC4551, 52	SN74S1051NS	IC	2	
C4522	ECEVICV220Q	E. CAPACITOR CH 16V 22U	1		IC4553	74ALS245ASJ	IC	1	
C4523	VCF28AB682J	G. CAPACITOR 400V 6800P	1		IC4554	74ALS541SJ	IC	1	
C4524	ECUM1H471JON	G. CAPACITOR CH 50V 470P	1		IC4555	74F04SJ	IC	1	
C4551	ECEVICV470Q	E. CAPACITOR CH 16V 47U	1		IC4556	74AC139SJ	IC	1	
C4552	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1		IC4557, 58	UPD71055GB	IC	2	
C4553-56	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	4						
C4558	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1		L4121	VL00163J100	COIL	10UH	1
C4559, 60	ECUM1H103ZFN	G. CAPACITOR CH 50V 0.01U	2		L4191	VL00163J100	COIL	10UH	1
					L4381	VL00423J472	COIL	4700UH	1
D4001, 02	MA157	DIODE	2						
D4061, 62	MA157	DIODE	2		P4001, 02	VJP3454B096	CONNECTOR (MALE)		2
D4221, 22	MA157	DIODE	2						
D4281, 82	MA157	DIODE	2		Q4221	2SD1994A-R	TRANSISTOR		1
D4341	MA157	DIODE	1		Q4222	2SB1322A-R	TRANSISTOR		1
D4342-44	MA152WK	DIODE	3		Q4223	2SD1994A-R	TRANSISTOR		1
D4461	MA152A	DIODE	1		Q4224	2SB1322A-R	TRANSISTOR		1
D4501-03	MA152A	DIODE	3		Q4225	2SD602A-R	TRANSISTOR		1
					Q4226-29	2SD1328	TRANSISTOR		4
FL4381	EIR70F012B	TRANSFORMER	1		Q4230	2SB710A-R	TRANSISTOR		1
FL4382	VLF1069	FILTER	1		Q4281	2SD1994A-R	TRANSISTOR		1
FL4501, 02	VLF0941C223	FILTER	2		Q4282	2SB1322A-R	TRANSISTOR		1
FL4551	VLF0941C223	FILTER	1		Q4283	2SD1994A-R	TRANSISTOR		1
					Q4284	2SB1322A-R	TRANSISTOR		1
IC4001	NJM78L09UA	IC	1		Q4285	2SD602A-R	TRANSISTOR		1
IC4002	NJM78L09UA	IC	1		Q4286-89	2SD1328	TRANSISTOR		4
IC4003, 04	NJM4580ED	IC	2		Q4290	2SB710A-R	TRANSISTOR		1
IC4005	MC14052BF	IC	1		Q4341-44	2SB710A-R	TRANSISTOR		4
IC4006	NJM4580ED	IC	1		Q4345, 46	2SD1328	TRANSISTOR		2
IC4008	MC14053BF	IC	1		Q4347	2SD602A-R	TRANSISTOR		1
IC4061	NJM78L09UA	IC	1		Q4348	2SD1328	TRANSISTOR		1
IC4062	NJM78L09UA	IC	1		Q4350	2SB710A-R	TRANSISTOR		1
IC4063, 64	NJM4580ED	IC	2		Q4381, 82	2SD1149-R	TRANSISTOR		2
IC4065	MC14052BF	IC	1		Q4383	2SB792-R	TRANSISTOR		1
IC4066	NJM4580ED	IC	1		Q4384, 85	2SD602A-R	TRANSISTOR		2
IC4068	MC14053BF	IC	1		Q4386	2SB710A-R	TRANSISTOR		1
IC4121, 22	NJM2100MD	IC	2		Q4461-63	2SD1328	TRANSISTOR		3
IC4123	T74VHC244F	IC	1		Q4501	2SB710A-R	TRANSISTOR		1
IC4124	NJM78L05UA	IC	1		Q4502	2SD602A-R	TRANSISTOR		1
IC4125-27	XC62AP3002P	IC	3		Q4503	2SB710A-R	TRANSISTOR		1
IC4128	AK4503VF	IC	1		Q4504-06	2SD602A-R	TRANSISTOR		3
IC4129	NJM4580ED	IC	1		Q4507	2SB710A-R	TRANSISTOR		1
IC4131	T74VHC244F	IC	1		Q4508	2SD602A-R	TRANSISTOR		1
IC4191	NJM78L05UA	IC	1		Q4509	2SB710A-R	TRANSISTOR		1
IC4192	MC74HC541AF	IC	1		Q4510-13	2SD602A-R	TRANSISTOR		4
IC4193	AK4320VM	IC	1						
IC4194, 95	NJM4580ED	IC	2		QR4191	UN2213	TRANSISTOR-RESISTOR		1

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
QR4341, 42	UN2213	TRANSISTOR-RESISTOR	2	
QR4381, 82	UN2213	TRANSISTOR-RESISTOR	2	
R4001	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R4002	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R4003	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4004	ERJ12YJ621	M. RESISTOR CH 1/2W 620	1	
R4005	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4006	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R4007	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4008, 09	VRE0034E473	M. RESISTOR CH 1/10W 47K	2	
R4010, 11	VRE0034E123	M. RESISTOR CH 1/10W 12K	2	
R4016	VRE0034E32B	M. RESISTOR CH 1/10W 32	1	
R4017	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R4018	ERJ6GEYJ335	M. RESISTOR CH 1/10W 3.3K	1	
R4019	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R4020	ERJ6GEYJ335	M. RESISTOR CH 1/10W 3.3K	1	
R4021	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R4022	VRE0034E32B	M. RESISTOR CH 1/10W 32	1	
R4023	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R4028, 30	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	2	
R4032	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4034	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4036, 37	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R4040	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4041	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R4043	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4045	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4046-55	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	10	
R4061	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R4062	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R4063	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4064	ERJ12YJ621	M. RESISTOR CH 1/2W 620	1	
R4065	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4066	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R4067	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4068, 69	VRE0034E473	M. RESISTOR CH 1/10W 47K	2	
R4070, 71	VRE0034E123	M. RESISTOR CH 1/10W 12K	2	
R4076	VRE0034E32B	M. RESISTOR CH 1/10W 32	1	
R4077	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R4078	ERJ6GEYJ335	M. RESISTOR CH 1/10W 3.3K	1	
R4079	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R4080	ERJ6GEYJ335	M. RESISTOR CH 1/10W 3.3K	1	
R4081	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R4082	VRE0034E32B	M. RESISTOR CH 1/10W 32	1	
R4083	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R4089, 90	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	2	
R4092	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4094	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4096, 97	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R4100	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4101	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R4103	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4105	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4106-15	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	10	
R4121, 22	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	2	
R4123, 24	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R4125, 26	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R4127-30	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	4	
R4131, 32	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	2	
R4133-38	VRE0034E103	M. RESISTOR CH 1/10W 10K	6	
R4139-42	VRE0034E471	M. RESISTOR CH 1/10W 470	4	
R4143	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4144, 45	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	2	
R4146, 47	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R4150	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4152	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4154	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R4156, 57	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R4160	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4161	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4162	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4164	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4165	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4167	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4168-70	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3	
R4191	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4192, 93	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R4194	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4195-97	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3	
R4198	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R4199-01	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3	
R4203	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R4204, 05	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	2	
R4206, 07	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	2	
R4210, 11	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R4213	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R4214, 15	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R4217	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R4219	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R4221	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4222	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4223	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R4224	VRE0034E301	M. RESISTOR CH 1/10W 300	1	
R4225	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R4226	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4227	VRE0034E123	M. RESISTOR CH 1/10W 12K	1	
R4228	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R4229	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R4230	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R4231	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4232	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R4233-36	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	4	
R4237, 38	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	2	
R4239, 40	VRE0034E153	M. RESISTOR CH 1/10W 15K	2	
R4241	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R4242	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4243	VRE0034E150	M. RESISTOR CH 1/10W 15	1	
R4244	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R4245-48	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	4	
R4249	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4250-53	ERJ14YJ100	M. RESISTOR CH 1/4W 10	4	
R4254	VRE0034E150	M. RESISTOR CH 1/10W 15	1	
R4255, 56	ERJ14YJ220	M. RESISTOR CH 1/4W 22	2	
R4257, 58	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R4259	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R4260, 61	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R4262	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R4263-66	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	4	
R4267-70	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	4	
R4281	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4282	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R4283	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R4284	VRE0034E301	M. RESISTOR CH 1/10W 300	1	
R4285	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R4286	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4287	VRE0034E123	M. RESISTOR CH 1/10W 12K	1	
R4288	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R4289	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R4290	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R4291	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4292	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R4293-96	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	4	
R4297, 98	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	2	
R4299, 00	VRE0034E153	M. RESISTOR CH 1/10W 15K	2	
R4301	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R4302	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4303	VRE0034E150	M. RESISTOR CH 1/10W 15	1	
R4304	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R4305-08	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	4	
R4309	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4310-13	ERJ14YJ100	M. RESISTOR CH 1/4W 10	4	
R4314	VRE0034E150	M. RESISTOR CH 1/10W 15	1	
R4315, 16	ERJ14YJ220	M. RESISTOR CH 1/4W 22	2	
R4317, 18	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R4319	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R4320, 21	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R4322	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R4323-26	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	4	
R4327-30	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	4	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4341, 42	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		R4439	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R4343	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		R4441	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R4344	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4442-44	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R4345	ERJ6GEY0105	M. RESISTOR CH 1/10W 1W	1		R4445	VRE0034E202	M. RESISTOR CH 1/10W 2K	1	
R4346	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1		R4446	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R4347-50	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	4		R4447	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R4351, 52	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		R4448	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R4353	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R4449	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R4354	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4450	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R4355	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R4451	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R4356-58	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3		R4461	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1	
R4359	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4462	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	
R4360	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R4463	VRE0034E271	M. RESISTOR CH 1/10W 270	1	
R4362-64	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3		R4464	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4365	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		R4465	VRE0034E392	M. RESISTOR CH 1/10W 3.9K	1	
R4366	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R4466	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R4367	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4467	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R4368	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R4468	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R4369	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R4470	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1	
R4371, 72	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2		R4472	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R4374	ERJ6GEY0182	M. RESISTOR CH 1/10W 1.8K	1		R4473	VRE0034E123	M. RESISTOR CH 1/10W 12K	1	
R4375	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R4474	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R4376	ERJ6GEY0182	M. RESISTOR CH 1/10W 1.8K	1		R4475	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R4377	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R4476	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R4381, 82	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	2		R4477	ERJ6GEY0122	M. RESISTOR CH 1/10W 1.2K	1	
R4383	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1		R4478	VRE0034E124	M. RESISTOR CH 1/10W 120K	1	
R4384	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1		R4479	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R4385	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4480	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R4386	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		R4481	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R4387	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1		R4482-84	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R4388	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4485	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4389	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4486	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R4390	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		R4487, 88	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R4391, 92	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2		R4489	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R4393	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		R4491, 92	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R4394	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4493	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	
R4395, 96	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2		R4494	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R4397	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		R4495	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1	
R4398	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	1		R4501	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R4399	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4502	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R4400	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1		R4503, 04	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	2	
R4401	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R4505	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4402	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4506	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R4403	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4507	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R4404	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1		R4508	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4405	ERJ6GEYF124	M. RESISTOR CH 1/10W 120K	1		R4509	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R4406	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R4510	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4407	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1		R4511	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R4408	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1		R4512	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R4409	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R4513	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R4410	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1		R4514	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R4411	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1		R4515	ERJ6GEY0220	M. RESISTOR CH 1/10W 22	1	
R4412	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4516, 17	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	2	
R4413	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1		R4518	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R4414	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R4519	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R4415	VRE0034E823	M. RESISTOR CH 1/10W 8.2K	1		R4520	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R4416	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1		R4521	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R4417	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4522, 23	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R4418	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R4524	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R4419	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R4525, 26	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R4420	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R4527	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R4422	VRE0034E152	M. RESISTOR CH 1/10W 1.5K	1		R4528	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4423	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4529	ERJ6GEY0180	M. RESISTOR CH 1/10W 18	1	
R4424	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1		R4530, 31	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R4425	ERJ6GEY0182	M. RESISTOR CH 1/10W 1.8K	1		R4532	ERJ6GEYK1R0	M. RESISTOR CH 1/10W 1	1	
R4426	VRE0034E392	M. RESISTOR CH 1/10W 3.9K	1		R4533	ERJ6GEY0180	M. RESISTOR CH 1/10W 18	1	
R4427	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1		R4534	ERJ6GEYK1R0	M. RESISTOR CH 1/10W 1	1	
R4428	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4535	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R4429	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		R4551, 52	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R4431	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		R4553, 54	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R4433	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R4555-62	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	8	
R4434	VRE0034E433	M. RESISTOR CH 1/10W 43K	1						
R4435	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1		SW4001	VSS0126	SWITCH	1	
R4436	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		SW4061	VSS0126	SWITCH	1	
R4437	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		SW4381	VSS0367-048	SWITCH	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
SW4382	VSS0342	SWITCH	1	
T4501	VLT0866	TRANSFORMER	1	
T4502	VLT0868	TRANSFORMER	1	
T4503, 04	VLT0867	TRANSFORMER	2	
TG4121, 22	VJR0646	TEST POINT	2	
TG4191, 92	VJR0646	TEST POINT	2	
TG4461	VJR0646	TEST POINT	1	
TG4501	VJR0646	TEST POINT	1	
TP4121-26	VJR0646	TEST POINT	6	
TP4191-93	VJR0646	TEST POINT	3	
TP4221	VJR0646	TEST POINT	1	
TP4281	VJR0646	TEST POINT	1	
TP4381-83	VJR0646	TEST POINT	3	
TP4501, 02	VJR0646	TEST POINT	2	
VR4002	VRV0064B103	V. RESISTOR 10K	1	
VR4062	VRV0064B103	V. RESISTOR 10K	1	
VR4221	VRV0064B103	V. RESISTOR 10K	1	
VR4281	VRV0064B103	V. RESISTOR 10K	1	
VR4341	VRV0064B103	V. RESISTOR 10K	1	
VR4381	VRV0064B103	V. RESISTOR 10K	1	
VR4382	VRV0064B503	V. RESISTOR 50K	1	
VR4383	VRV0064B502	V. RESISTOR 5K	1	
VR4384	VRV0064B103	V. RESISTOR 10K	1	
VR4385	VRV0064B203	V. RESISTOR 20K	1	
VR4501	VRV0064B104	V. RESISTOR 100K	1	
		MISCELLANEOUS		
	VML2143	CARD PULLER	1	
	VML2144	CARD PULLER	1	
	VEP85048A	H3 EQ C.B.A.	1 (RTL)	
C5001-04	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C5005, 06	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	2	
C5008, 09	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5011, 12	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5013	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C5014, 15	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5016, 17	ECUM1H122KBN	C. CAPACITOR CH 50V 1200P	2	
C5018, 19	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5020	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C5021-29	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	9	
C5101-04	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C5105	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C5107	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C5108, 09	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5111-16	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	6	
C5117	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C5118-25	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	8	
C5126, 27	ECUM1H122KBN	C. CAPACITOR CH 50V 1200P	2	
C5128	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C5129-37	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	9	
C5202-11	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	10	
C5213-15	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C5217-19	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C5220	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C5223-30	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	8	
C5231	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C5232, 33	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5234	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	1	
C5235	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5236	ECUM1C104KBN	C. CAPACITOR CH 16V 0.1U	1	
C5238-40	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C5241	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C5242-47	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	6	
C5249, 50	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5251, 52	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	2	
C5253	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C5254	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C5256	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C5258-62	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	5	
C5266	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5401-03	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C5405-11	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	7	
C5413-16	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C5418, 19	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5420	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C5423-32	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	10	
C5433	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	1	
C5434	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5435	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	1	
C5436	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5437	ECUM1C104KBN	C. CAPACITOR CH 16V 0.1U	1	
C5439-41	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C5442	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
C5443-52	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	10	
C5453, 54	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	2	
C5455	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5456, 57	ECUM1H152KBN	C. CAPACITOR CH 50V 1500P	2	
C5460-64	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	5	
C5466	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5601-04	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C5605	ECUM1H040GCN	C. CAPACITOR CH 50V 4P	1	
C5606-09	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C5611	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5613, 14	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5619-22	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C5625	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5627	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5630	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5631	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C5633-36	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C5638	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5643	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5701-05	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	5	
C5710, 11	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5715, 16	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5801, 02	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5806-09	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	4	
C5811-13	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C5818	ECUM1H100GCN	C. CAPACITOR CH 50V 10P	1	
C5819, 20	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5822	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5901, 02	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5904	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5909	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5912	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C5913	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5951	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5952	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5953	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5954	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C5955-57	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C5958	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C5959, 60	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5961	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C5962, 63	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5964	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C5965, 66	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5967	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C5968, 69	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5970	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5971, 72	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5973	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C5974	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5975	ECEA1AGE471	E. CAPACITOR 10V 470U	1	
C5976	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5977, 78	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C5979	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C5980	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5981-83	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C5984	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5985	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C5986	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1		Q5004-12	2SC2295-B	TRANSISTOR	9	
C5987, 88	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		Q5101	XN5531	TRANSISTOR	1	
C5989	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1		Q5102	2SC2295-B	TRANSISTOR	1	
C5990	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1		Q5103	XN5531	TRANSISTOR	1	
C5991	ECEV1GV220Q	E. CAPACITOR CH 16V 22U	1		Q5104-10	2SC2295-B	TRANSISTOR	7	
C5992	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1		Q5202, Q3	2SC2295-B	TRANSISTOR	2	
C5995, 96	ECEATGGE470	E. CAPACITOR 16V 47U	2		Q5204	2SA1022-B	TRANSISTOR	1	
D5001	MA3020	DIODE	1		Q5401-03	2SC2295-B	TRANSISTOR	3	
D5101	MA3020	DIODE	1		Q5404	2SA1022-B	TRANSISTOR	1	
D5201	MA3036-H	DIODE	1		Q5601, 02	2SC2295-B	TRANSISTOR	2	
D5401	MA3036-H	DIODE	1		Q5603	XN5531	TRANSISTOR	1	
D5402	MA3030-H	DIODE	1		Q5606-08	2SC2295-B	TRANSISTOR	3	
D5403	MA3033-L	DIODE	1		QR5101	UN2213	TRANSISTOR-RESISTOR	1	
D5901	MA152K	DIODE	1		QR5401, 02	UN2213	TRANSISTOR-RESISTOR	2	
D5951-62	MA701A	DIODE	12						
FL5951-55	VLF1016A470	FILTER	5		R5004	ERJ66EY8101	M. RESISTOR CH 1/10W 100	1	
IC5001	AN3730FA	IC	1		R5006	ERJ66EY8101	M. RESISTOR CH 1/10W 100	1	
IC5101	M52055FP	IC	1		R5007	ERJ66EY8221	M. RESISTOR CH 1/10W 220	1	
IC5102	AN3730FA	IC	1		R5008-11	ERJ66EY8470	M. RESISTOR CH 1/10W 47	4	
IC5201	TC7S32F	IC	1		R5012	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
IC5202	MC14053BF	IC	1		R5013, 14	ERJ66EY8470	M. RESISTOR CH 1/10W 390	2	
IC5203	NJM319M	IC	1		R5015	ERJ66EY8221	M. RESISTOR CH 1/10W 220	1	
IC5204	NJM082BM	IC	1		R5016	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
IC5205	TC7SH32F	IC	1		R5018	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5206	NJM084M	IC	1		R5019	ERJ66EY8391	M. RESISTOR CH 1/10W 390	1	
IC5207	AN3740FAP	IC	1		R5020-22	ERJ66EY8470	M. RESISTOR CH 1/10W 47	3	
IC5208	MC74HC4066F	IC	1		R5023	ERJ66EY8391	M. RESISTOR CH 1/10W 390	1	
IC5209	NJM082BM	IC	1		R5025	ERJ66EY8121	M. RESISTOR CH 1/10W 120	1	
IC5401	NJM082BM	IC	1		R5026, 27	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	2	
IC5402	TC7W08F	IC	1		R5028	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5403	TC7S32F	IC	1		R5029	ERJ66EY8121	M. RESISTOR CH 1/10W 120	1	
IC5404	MC14053BF	IC	1		R5030	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5405	NJM082BM	IC	1		R5031	ERJ66EY8181	M. RESISTOR CH 1/10W 180	1	
IC5406	NJM084M	IC	1		R5032	ERJ66EY8152	M. RESISTOR CH 1/10W 1.5K	1	
IC5407	NJM319M	IC	1		R5033	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5408	AN3740FAP	IC	1		R5034	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
IC5409	MC74HC4066F	IC	1		R5035, 36	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
IC5410	NJM082BM	IC	1		R5037	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
IC5411	T74LCX244F	IC	1		R5038	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5601	UPC1663B	IC	1		R5039	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
IC5602	NJM084M	IC	1		R5040	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5603	CXD2302Q	IC	1		R5041	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	1	
IC5701	MB88344PFV	IC	1		R5042	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5702	NJM084M	IC	1		R5043	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
IC5703	NJM082BM	IC	1		R5044	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5801, 02	74F04SJ	IC	2		R5045	ERJ66EY8152	M. RESISTOR CH 1/10W 1.5K	1	
IC5803	74F08SJ	IC	1		R5046, 47	ERJ66EY0R00	M. RESISTOR CH 1/10W 0	2	
IC5805	74F151ASJ	IC	1		R5048	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5806	74F157ASJ	IC	1		R5049	ERJ66EY0R00	M. RESISTOR CH 1/10W 0	1	
IC5807	MC10H124M	IC	1		R5050	ERJ66EY8122	M. RESISTOR CH 1/10W 1.2K	1	
IC5810	TC7S32F	IC	1		R5051	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
IC5901	T160822-1225	IC	1		R5052	ERJ66EY0R00	M. RESISTOR CH 1/10W 0	1	
IC5902	TC7W08F	IC	1		R5053	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
IC5903	S80727ANDQ	IC	1		R5054	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
IC5904	T74LCX244F	IC	1		R5101, 02	ERJ66EY0R00	M. RESISTOR CH 1/10W 0	2	
IC5951-54	XC62AP3002P	IC	4		R5103	ERJ66EY8101	M. RESISTOR CH 1/10W 100	1	
IC5955, 56	AN78M05F	IC	2		R5104, 05	ERJ66EY0R00	M. RESISTOR CH 1/10W 0	2	
IC5957, 58	AN78M05F	IC	2		R5106	ERJ66EY8101	M. RESISTOR CH 1/10W 100	1	
IC5959	NJM78L09UA	IC	1		R5107	ERJ66EY8221	M. RESISTOR CH 1/10W 220	1	
L5701	VLQ0163J100	COIL 10UH	1		R5108-11	ERJ66EY8470	M. RESISTOR CH 1/10W 47	4	
L5801	VLQ0163J8R2	COIL 8.2UH	1		R5112	ERJ66EY8221	M. RESISTOR CH 1/10W 220	1	
L5802	VLQ0163J2R7	COIL 2.7UH	1		R5114, 15	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
L5951-53	VLP0133	COIL	3		R5116	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
P5951	VJP3454B096	CONNECTOR (MALE)	1		R5117	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
P5952	VJP1231R	CONNECTOR (MALE) 4P	1		R5118	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
P5953	VJP1231T	CONNECTOR (MALE) 4P	1		R5119	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
Q5001	XN5531	TRANSISTOR	1		R5120	ERJ66EY8391	M. RESISTOR CH 1/10W 390	1	
Q5002	2SC2295-B	TRANSISTOR	1		R5121	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
Q5003	XN5531	TRANSISTOR	1		R5122	ERJ66EY8391	M. RESISTOR CH 1/10W 390	1	
					R5124	ERJ66EY0R00	M. RESISTOR CH 1/10W 0	1	
					R5125	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
					R5126	ERJ66EY8121	M. RESISTOR CH 1/10W 120	1	
					R5127	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
					R5128, 29	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5131	ERJ6GEYQ121	M. RESISTOR CH 1/10W 120	1	
R5132	ERJ6GEYQ181	M. RESISTOR CH 1/10W 180	1	
R5133	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R5134	ERJ6GEYQ152	M. RESISTOR CH 1/10W 1.5K	1	
R5135, 36	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	2	
R5137	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5138	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5139	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5141	ERJ6GEYQ102	M. RESISTOR CH 1/10W 1K	1	
R5142	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5143	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5144	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5145	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5146	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5147, 48	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	2	
R5149	ERJ6GEYQ122	M. RESISTOR CH 1/10W 1.2K	1	
R5150, 51	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	2	
R5152	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5206	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5208	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5210	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5211	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5212	ERJ6GEYQ273	M. RESISTOR CH 1/10W 27K	1	
R5214	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5215	ERJ6GEYQ682	M. RESISTOR CH 1/10W 6.8K	1	
R5216	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5217	ERJ6GEYQ102	M. RESISTOR CH 1/10W 1K	1	
R5218	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5219	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5220	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5222, 23	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	2	
R5225	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5227	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5229	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5230	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5231, 32	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	2	
R5233	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5234	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5235	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5238	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5239	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5240	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5242	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5243	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5244	ERJ6GEYQ102	M. RESISTOR CH 1/10W 1K	1	
R5245	ERJ6GEYQ821	M. RESISTOR CH 1/10W 820	1	
R5246	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5247	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5248	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5249	ERJ6GEYQ331	M. RESISTOR CH 1/10W 330	1	
R5250	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5251	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5252	ERJ6GEYQ680	M. RESISTOR CH 1/10W 68	1	
R5253	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R5255	ERJ6GEYQ821	M. RESISTOR CH 1/10W 820	1	
R5256	ERJ6GEYQ102	M. RESISTOR CH 1/10W 1K	1	
R5257	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5258	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5259	ERJ6GEYQ182	M. RESISTOR CH 1/10W 1.8K	1	
R5262	ERJ6GEYQ332	M. RESISTOR CH 1/10W 3.3K	1	
R5263	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5264	ERJ6GEYQ153	M. RESISTOR CH 1/10W 15K	1	
R5265	ERJ6GEYQ562	M. RESISTOR CH 1/10W 5.6K	1	
R5266	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5267	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5269	ERJ6GEYQ392	M. RESISTOR CH 1/10W 3.9K	1	
R5270	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5271	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5273	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5277	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5281	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5283, 84	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	2	
R5288	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5290	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5291	ERJ6GEYQ682	M. RESISTOR CH 1/10W 6.8K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5292, 93	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	2	
R5302, 03	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	2	
R5401, 02	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	2	
R5410, 11	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	2	
R5413	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5414	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5415	ERJ6GEYQ273	M. RESISTOR CH 1/10W 27K	1	
R5416	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5417	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5418	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5419	ERJ6GEYQ682	M. RESISTOR CH 1/10W 6.8K	1	
R5420	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R5421	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5422	ERJ6GEYQ102	M. RESISTOR CH 1/10W 1K	1	
R5425	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5426	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R5429	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5430	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5431	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5432	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5433	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5434	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5435	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5436	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5437	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5438, 39	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	2	
R5440	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5441	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5442	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	1	
R5445	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5446	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5447	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5449	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5450	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5451	ERJ6GEYQ102	M. RESISTOR CH 1/10W 1K	1	
R5452	ERJ6GEYQ821	M. RESISTOR CH 1/10W 820	1	
R5453	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5454	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5455	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5456	ERJ6GEYQ331	M. RESISTOR CH 1/10W 330	1	
R5457	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5458	ERJ6GEYQ680	M. RESISTOR CH 1/10W 68	1	
R5459	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R5461	ERJ6GEYQ821	M. RESISTOR CH 1/10W 820	1	
R5462	ERJ6GEYQ102	M. RESISTOR CH 1/10W 1K	1	
R5463	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5464	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5465	ERJ6GEYQ182	M. RESISTOR CH 1/10W 1.8K	1	
R5468	ERJ6GEYQ332	M. RESISTOR CH 1/10W 3.3K	1	
R5469	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5470	ERJ6GEYQ153	M. RESISTOR CH 1/10W 15K	1	
R5471	ERJ6GEYQ562	M. RESISTOR CH 1/10W 5.6K	1	
R5472	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5474	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5475	ERJ6GEYQ392	M. RESISTOR CH 1/10W 3.9K	1	
R5476	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5478	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5479	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5480	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5483	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1	
R5488	ERJ6GEYQ102	M. RESISTOR CH 1/10W 1K	1	
R5490, 91	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	2	
R5494	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5496	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5497	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5498	ERJ6GEYQ682	M. RESISTOR CH 1/10W 6.8K	1	
R5499	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	1	
R5501	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5502	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5504, 05	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	2	
R5508, 09	ERJ6GEYQ000	M. RESISTOR CH 1/10W 0	2	
R5601	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5602	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R5603	ERJ6GEYQ152	M. RESISTOR CH 1/10W 1.5K	1	
R5604, 05	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	2	



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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C5715	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C5717	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
C5718, 19	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C5720, 21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C5722	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C5724	ECUM1H560JCN	C. CAPACITOR CH 50V 56P	1	
C5726	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C5728	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
C5730, 31	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C5732	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C5733-36	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C5737, 38	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
C5739, 40	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C5743-45	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C5746, 47	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C5748-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
C5759	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C5760	ECUM1H182KBN	C. CAPACITOR CH 50V 1800P	1	
D5001	MA153	DIODE	1	
D5002	MA152WK	DIODE	1	
FL5002-05	VLF0931	FILTER	4	
IG5001	TL084CNS	IC	1	
IG5002	MC74HC32AF	IC	1	
IG5003	MC74HC04AF	IC	1	
IG5004	NJM082BM	IC	1	
IG5005	MC74HC86F	IC	1	
IG5006, 07	TC4S66F	IC	2	
IG5008	NJM082BM	IC	1	
IG5009	MC14053BF	IC	1	
IG5010	AN7805F	IC	1	
IG5011	AN7905F	IC	1	
IG5012	NJM082BM	IC	1	
IG5013	MB88344PFV	IC	1	
IG5014-16	NJM082BM	IC	3	
IG5017	MC14053BF	IC	1	
IG5018	TL084CNS	IC	1	
IG5019	NJM082BM	IC	1	
IG5020	MC10H116L	IC	1	
IG5021	MC10H102L	IC	1	
IG5022	MC10131L	IC	1	
IG5051	UPC1663B	IC	1	
IG5052	NJM1496M	IC	1	
IG5053	NJM082BM	IC	1	
IG5054	UPC1663B	IC	1	
IG5055	NJM1496M	IC	1	
L5600	VLQ0188K1RON	COIL	1	
L5601, 02	VLQ0188KR47N	COIL	2	
L5603, 04	VLQ0188J101	COIL 100UH	2	
L5605, 06	VLQ0163KR39	COIL 0.39UH	2	
L5700-02	VLQ0188K1RON	COIL	3	
L5703, 04	VLQ0188J101	COIL 100UH	2	
L5705, 06	VLQ0188KR39N	COIL 0.39UH	2	
P5001	VJP3454B096	CONNECTOR (MALE)	1	
P5002	VJP1230T	CONNECTOR (MALE) 3P	1	
P5003	VJP1230B	CONNECTOR (MALE) 3P	1	
P5004	VJP1230T	CONNECTOR (MALE) 3P	1	
P5005	VJP1230B	CONNECTOR (MALE) 3P	1	
Q5001	2SD601A-R	TRANSISTOR	1	
Q5002	2SB709A-R	TRANSISTOR	1	
Q5006, 07	2SA1022-C	TRANSISTOR	2	
Q5008	2SD601A-R	TRANSISTOR	1	
Q5600	XN6537	TRANSISTOR	1	
Q5601, 02	2SC2295-C	TRANSISTOR	2	
Q5603	XN5531	TRANSISTOR	1	
Q5604	2SC3130	TRANSISTOR	1	
Q5605	XN5531	TRANSISTOR	1	
Q5606, 07	2SK508K512	TRANSISTOR	2	
Q5608	2SC3130	TRANSISTOR	1	
Q5609, 10	2SD1979	TRANSISTOR	2	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q5611-13	2SC3130	TRANSISTOR	3	
Q5614, 15	2SK508K512	TRANSISTOR	2	
Q5616-19	XN5531	TRANSISTOR	4	
Q5620, 21	2SC3130	TRANSISTOR	2	
Q5700	XN6537	TRANSISTOR	1	
Q5701, 02	2SC2295-C	TRANSISTOR	2	
Q5703	XN5531	TRANSISTOR	1	
Q5704	2SC3130	TRANSISTOR	1	
Q5705	XN5531	TRANSISTOR	1	
Q5706, 07	2SK508K512	TRANSISTOR	2	
Q5708	2SC3130	TRANSISTOR	1	
Q5709, 10	2SD1979	TRANSISTOR	2	
Q5711-13	2SC3130	TRANSISTOR	3	
Q5714, 15	2SK508K512	TRANSISTOR	2	
Q5716-19	XN5531	TRANSISTOR	4	
Q5720	2SC3130	TRANSISTOR	1	
R5001	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5003	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5010, 11	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5012, 13	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5015	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5018, 19	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5020	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R5021	ERJ6GEY0683	M. RESISTOR CH 1/10W 68K	1	
R5022-26	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	5	
R5040	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5041, 42	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5043	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R5044	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5046-48	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R5049, 50	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5051	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5052-54	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R5055	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R5056	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5057	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5058	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5059, 60	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5061	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R5062	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5063-65	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R5069-80	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	12	
R5081	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R5082	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
R5083, 84	VRE0034E153	M. RESISTOR CH 1/10W 15K	2	
R5085	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5086	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R5087	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
R5088, 89	VRE0034E153	M. RESISTOR CH 1/10W 15K	2	
R5090	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5091	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5092, 93	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R5094	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5095	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R5096	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5097, 98	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R5099	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5100	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R5111	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5112	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R5113	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R5114, 15	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R5116	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5117	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R5118	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R5119, 20	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R5122	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5130-33	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	4	
R5140-45	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	6	
R5146	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5148	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R5149	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5150	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5151	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R5153	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1		R5691	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
R5154	VRE0034E333	M. RESISTOR CH 1/10W 33K	1		R5692	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5155	VRE0034E103	M. RESISTOR CH 1/10W 10K	1		R5693-96	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	4	
R5156	ERJ66EY8103	M. RESISTOR CH 1/10W 10K	1		R5697	VRE0034E821	M. RESISTOR CH 1/10W 820	1	
R5161	ERJ66EY8103	M. RESISTOR CH 1/10W 10K	1		R5698	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R5171, 72	ERJ66EY8101	M. RESISTOR CH 1/10W 100	2		R5699-02	ERJ66EY8560	M. RESISTOR CH 1/10W 56	4	
R5200, 01	ERJ66EY8101	M. RESISTOR CH 1/10W 100	2		R5703	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1	
R5202-05	ERJ66EYJ471	M. RESISTOR CH 1/10W 470	4		R5704	VRE0034E391	M. RESISTOR CH 1/10W 390	1	
R5206, 07	ERJ66EY8101	M. RESISTOR CH 1/10W 100	2		R5705	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5208-10	ERJ66EYJ471	M. RESISTOR CH 1/10W 470	3		R5706, 07	VRE0034E392	M. RESISTOR CH 1/10W 3.9K	2	
R5211, 12	ERJ66EY8101	M. RESISTOR CH 1/10W 100	2		R5708	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R5214, 15	ERJ66EY8332	M. RESISTOR CH 1/10W 3.3K	2		R5709	ERJ66EY8103	M. RESISTOR CH 1/10W 10K	1	
R5216, 17	ERJ66EY8121	M. RESISTOR CH 1/10W 120	2		R5710	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
R5218, 19	ERJ66EYJ820	M. RESISTOR CH 1/10W 82	2		R5711-15	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	5	
R5230	ERJ66EY8153	M. RESISTOR CH 1/10W 15K	1		R5717	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5231, 32	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5718	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1	
R5600, 01	VRE0034E470	M. RESISTOR CH 1/10W 47	2		R5719	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	1	
R5602	VRE0034E560	M. RESISTOR CH 1/10W 56	1		R5720	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
R5603, 04	VRE0034E271	M. RESISTOR CH 1/10W 270	2		R5800, 01	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R5605	VRE0034E680	M. RESISTOR CH 1/10W 68	1		R5802	VRE0034E560	M. RESISTOR CH 1/10W 56	1	
R5606	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1		R5803, 04	VRE0034E271	M. RESISTOR CH 1/10W 270	2	
R5607, 08	VRE0034E391	M. RESISTOR CH 1/10W 390	2		R5805	VRE0034E121	M. RESISTOR CH 1/10W 120	1	
R5609	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1		R5806	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R5610, 11	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5807, 08	VRE0034E391	M. RESISTOR CH 1/10W 390	2	
R5612	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1		R5809	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R5613	ERJ66EY8272	M. RESISTOR CH 1/10W 2.7K	1		R5810, 11	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
R5614	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1		R5812	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1	
R5615	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1		R5813	ERJ66EY8272	M. RESISTOR CH 1/10W 2.7K	1	
R5616, 17	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2		R5814	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5618, 19	ERJ66EY8332	M. RESISTOR CH 1/10W 3.3K	2		R5815	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
R5620, 21	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5816, 17	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2	
R5622, 23	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2		R5818, 19	ERJ66EY8332	M. RESISTOR CH 1/10W 3.3K	2	
R5624, 25	ERJ66EY8152	M. RESISTOR CH 1/10W 1.5K	2		R5820, 21	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
R5626	VRE0034E181	M. RESISTOR CH 1/10W 180	1		R5822, 23	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2	
R5627	VRE0034E103	M. RESISTOR CH 1/10W 10K	1		R5824, 25	ERJ66EY8152	M. RESISTOR CH 1/10W 1.5K	2	
R5628	VRE0034E391	M. RESISTOR CH 1/10W 390	1		R5826	VRE0034E181	M. RESISTOR CH 1/10W 180	1	
R5629	VRE0034E181	M. RESISTOR CH 1/10W 180	1		R5827	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5630	VRE0034E103	M. RESISTOR CH 1/10W 10K	1		R5828	VRE0034E391	M. RESISTOR CH 1/10W 390	1	
R5631	ERJ66EY8221	M. RESISTOR CH 1/10W 220	1		R5829	VRE0034E181	M. RESISTOR CH 1/10W 180	1	
R5632	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1		R5830	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5633	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1		R5831	ERJ66EY8221	M. RESISTOR CH 1/10W 220	1	
R5634	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1		R5832	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	1	
R5635	ERJ66EY8272	M. RESISTOR CH 1/10W 2.7K	1		R5833	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
R5637, 38	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5834	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1	
R5639, 40	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	2		R5835	ERJ66EY8272	M. RESISTOR CH 1/10W 2.7K	1	
R5642, 43	ERJ66EY8103	M. RESISTOR CH 1/10W 10K	2		R5836	VRE0034E101	M. RESISTOR CH 1/10W 100	1	
R5644	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1		R5837	ERJ66EY8470	M. RESISTOR CH 1/10W 47	1	
R5645	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	1		R5838	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R5646, 47	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5839, 40	VRE0034E151	M. RESISTOR CH 1/10W 150	2	
R5648	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1		R5842, 43	ERJ66EY8103	M. RESISTOR CH 1/10W 10K	2	
R5649	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	1		R5844	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1	
R5650, 51	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5845	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	1	
R5652	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1		R5846, 47	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
R5653	ERJ66EY8182	M. RESISTOR CH 1/10W 1.8K	1		R5848	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1	
R5654, 55	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5849	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	1	
R5656, 57	ERJ66EY8331	M. RESISTOR CH 1/10W 330	2		R5850, 51	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
R5658, 59	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	2		R5852	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1	
R5660	ERJ66EY8152	M. RESISTOR CH 1/10W 1.5K	1		R5853	ERJ66EY8182	M. RESISTOR CH 1/10W 1.8K	1	
R5661	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1		R5854, 55	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
R5662	VRE0034E221	M. RESISTOR CH 1/10W 220	1		R5856, 57	ERJ66EY8331	M. RESISTOR CH 1/10W 330	2	
R5663	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1		R5858, 59	ERJ66EY8102	M. RESISTOR CH 1/10W 1K	2	
R5664-66	ERJ66EY8152	M. RESISTOR CH 1/10W 1.5K	3		R5860	ERJ66EY8152	M. RESISTOR CH 1/10W 1.5K	1	
R5667, 68	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5861	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5669, 70	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2		R5862	VRE0034E221	M. RESISTOR CH 1/10W 220	1	
R5671, 72	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	2		R5863	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5673, 74	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5864-66	ERJ66EY8152	M. RESISTOR CH 1/10W 1.5K	3	
R5675, 76	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2		R5867, 68	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
R5677, 78	VRE0034E391	M. RESISTOR CH 1/10W 390	2		R5869, 70	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2	
R5679, 80	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	2		R5871, 72	ERJ66EY8222	M. RESISTOR CH 1/10W 2.2K	2	
R5681, 82	VRE0034E470	M. RESISTOR CH 1/10W 47	2		R5873, 74	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	
R5683, 84	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2		R5875, 76	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2	
R5685, 86	ERJ66EY8330	M. RESISTOR CH 1/10W 33	2		R5877, 78	VRE0034E391	M. RESISTOR CH 1/10W 390	2	
R5687, 88	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	2		R5879, 80	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	2	
R5689	ERJ66EY8330	M. RESISTOR CH 1/10W 33	1		R5881, 82	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R5690	ERJ66EY8182	M. RESISTOR CH 1/10W 1.8K	1		R5883, 84	ERJ66EY8470	M. RESISTOR CH 1/10W 47	2	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R5885, 86	ERJ6GEY330	M. RESISTOR CH 1/10W 33	2	
R5887, 88	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R5889	ERJ6GEY330	M. RESISTOR CH 1/10W 33	1	
R5890	ERJ6GEY0182	M. RESISTOR CH 1/10W 1.8K	1	
R5891	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	1	
R5892	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5893-96	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	4	
R5897	VRE0034E821	M. RESISTOR CH 1/10W 820	1	
R5898	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R5899-02	ERJ6GEY6560	M. RESISTOR CH 1/10W 56	4	
R5903	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1	
R5904	VRE0034E391	M. RESISTOR CH 1/10W 390	1	
R5905	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5906, 07	VRE0034E392	M. RESISTOR CH 1/10W 3.9K	2	
R5908	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R5909	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5910	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5911-14	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	4	
R5920	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
RY5001	VSY2069	RELAY	1	
SS5008	VJS1990	CONNECTOR (FEMALE)	1	
SW5008	VJP2536A003	CONNECTOR (MALE)	1	
T05001-03	VJR0646	TEST POINT	3	
T05005-09	VJR0646	TEST POINT	5	
TP5001-03	VJR0646	TEST POINT	3	
TP5007-12	VJR0646	TEST POINT	6	
TP5015-20	VJR0646	TEST POINT	6	
VC5600, 01	ECV1ZW20X53	TRIMMER	2	
VC5700, 01	ECV1ZW20X53	TRIMMER	2	
VR5001-14	VRV0064B502	V. RESISTOR 5K	14	
		MISCELLANEOUS		
	VML2143	GARD PULLER	1	
	VML2144	GARD PULLER	1	
	VSC3626	HEAT SINK (A)	2	
	XNG26E	NUT	2	
	XYN26+F10	SCREW	2	
	VEP85151A	BUFFER AMP C. B. A.	1 (RTL)	
C5001	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5002	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5003	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5004	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5005	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5006	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5007	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5008	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5009	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5010	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5011-14	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	4	
C5015, 16	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C5017-20	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	4	
C5021, 22	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C5050-60	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	11	
C5061, 62	EGUX1H221JCV	G. CAPACITOR CH 50V 220P	2	
C5063-66	EGUX1H822KBV	G. CAPACITOR CH 50V 8200P	4	
C5100-03	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	4	
C5200-03	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	4	
C5300-02	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	3	
C5303	EGUX1H220JCV	G. CAPACITOR CH 50V 22P	1	
C5304	EGUX1H181JCV	G. CAPACITOR CH 50V 180P	1	
C5305	EGUX1H030CCV	G. CAPACITOR CH 50V 3P	1	
C5306	EGUX1H180JCV	G. CAPACITOR CH 50V 18P	1	
C5307, 08	EGUX1H080DCV	G. CAPACITOR CH 50V 8P	2	

OTHER

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C5350-52	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	3	
C5353	EGUX1H220JCV	G. CAPACITOR CH 50V 22P	1	
C5354	EGUX1H181JCV	G. CAPACITOR CH 50V 180P	1	
C5355	EGUX1H030CCV	G. CAPACITOR CH 50V 3P	1	
C5356	EGUX1H180JCV	G. CAPACITOR CH 50V 18P	1	
C5357, 58	EGUX1H080DCV	G. CAPACITOR CH 50V 8P	2	
C5400	EGUX1H121JCV	G. CAPACITOR CH 50V 120P	1	
C5401-05	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	5	
C5406, 07	EGUX1H102KBV	G. CAPACITOR CH 50V 1000P	2	
C5413-16	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	4	
C5420	EGUX1H121JCV	G. CAPACITOR CH 50V 120P	1	
C5421	EGUX1H221JCV	G. CAPACITOR CH 50V 220P	1	
C5500	EGUX1H121JCV	G. CAPACITOR CH 50V 120P	1	
C5501-05	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	5	
C5506, 07	EGUX1H102KBV	G. CAPACITOR CH 50V 1000P	2	
C5514-16	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	3	
C5520	EGUX1H121JCV	G. CAPACITOR CH 50V 120P	1	
C5521	EGUX1H221JCV	G. CAPACITOR CH 50V 220P	1	
C5600-10	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	11	
C5700-10	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	11	
C5801, 02	EGUX1H150JCV	G. CAPACITOR CH 50V 15P	2	
D5400, 01	MA152WK	DIODE	2	
D5500, 01	MA152WK	DIODE	2	
FL5001-05	VLF1016A470	FILTER	5	
IC5003	MC74HC04AF	IC	1	
IC5008, 09	TC4S66F	IC	2	
IC5010	XC62AP5002P	IC	1	
IC5011	XC62DN5002P	IC	1	
IC5014	NJM082BM	IC	1	
IC5023, 24	MC10H116L	IC	2	
IC5025, 26	TC4S69F	IC	2	
IC5027, 28	TC4S30F	IC	2	
IC5030-33	TC4S30F	IC	4	
IC5034	XC62DN5002P	IC	1	
IC5035	TC4S71F	IC	1	
IC5040-43	TC4S30F	IC	4	
IC5045	TC4S71F	IC	1	
IC5050	UPC5102GS030	IC	1	
IC5060	UPC5102GS030	IC	1	
L5300, 01	VLQ0163J2R2	COIL 2.2UH	2	
L5350, 51	VLQ0163J2R2	COIL 2.2UH	2	
L5400, 01	VLQ0163J330	COIL 33UH	2	
L5500, 01	VLQ0163J330	COIL 33UH	2	
P5001	VJS3375B060	CONNECTOR (FEMALE)	1	
P5002	VJS3900A013	CONNECTOR (FEMALE)	1	
P5003	VJS3900A010	CONNECTOR (FEMALE)	1	
Q5200, 01	2SA1022-C	TRANSISTOR	2	
Q5300	2SD601A-R	TRANSISTOR	1	
Q5301	2SB709A-R	TRANSISTOR	1	
Q5302, 03	2SC3735B35	TRANSISTOR	2	
Q5350	2SD601A-R	TRANSISTOR	1	
Q5351	2SB709A-R	TRANSISTOR	1	
Q5352, 53	2SC3735B35	TRANSISTOR	2	
Q5400	2SA1022-C	TRANSISTOR	1	
Q5401-04	2SD1979	TRANSISTOR	4	
Q5405, 06	2SC2954	TRANSISTOR	2	
Q5407, 08	2SC3130	TRANSISTOR	2	
Q5409	2SC2954	TRANSISTOR	1	
Q5410, 11	2SA1022-C	TRANSISTOR	2	
Q5412, 13	2SK508-B	TRANSISTOR	2	
Q5500	2SA1022-C	TRANSISTOR	1	
Q5501-04	2SD1979	TRANSISTOR	4	
Q5505, 06	2SC2954	TRANSISTOR	2	
Q5507, 08	2SC3130	TRANSISTOR	2	
Q5509	2SC2954	TRANSISTOR	1	
Q5510, 11	2SA1022-C	TRANSISTOR	2	
Q5512, 13	2SK508-B	TRANSISTOR	2	
Q5600, 01	XN5531	TRANSISTOR	2	
Q5700, 01	XN5531	TRANSISTOR	2	

## VEP85151A / VEP83224B

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5100	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R5101, 02	ERJ6GEYG153	M. RESISTOR CH 1/10W 15K	2	
R5103	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R5104, 05	ERJ6GEYG153	M. RESISTOR CH 1/10W 15K	2	
R5106-09	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	4	
R5200, 01	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R5202	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R5203, 04	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R5205	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R5206	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R5207, 08	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R5209	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R5210, 11	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R5212	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R5213	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R5214	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R5215, 16	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R5217	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5218	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R5219, 20	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R5221	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5300	ERJ6GEYG154	M. RESISTOR CH 1/10W 150K	1	
R5302	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5303	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5304	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5305	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R5306	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R5307	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5308	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R5309, 10	ERJ8GCG101	M. RESISTOR CH 1/8W 100	2	
R5311	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5312	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R5313	ERJ8GCGJ270	M. RESISTOR CH 1/8W 27	1	
R5314	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R5350	ERJ6GEYG154	M. RESISTOR CH 1/10W 150K	1	
R5352	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5353	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5354	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5355	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R5356	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R5357	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5358	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R5359, 60	ERJ8GCG101	M. RESISTOR CH 1/8W 100	2	
R5361	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5362	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R5363	ERJ8GCGJ270	M. RESISTOR CH 1/8W 27	1	
R5364	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R5400, 01	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	2	
R5402-04	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3	
R5405-08	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	4	
R5409-13	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	5	
R5414	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5415	ERJ8GCGJ221	M. RESISTOR CH 1/8W 220	1	
R5416	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5417	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R5419	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5420, 21	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	2	
R5424, 25	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5426	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R5427	ERJ6GEYG151	M. RESISTOR CH 1/10W 150	1	
R5428	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R5429	ERJ6GEYG151	M. RESISTOR CH 1/10W 150	1	
R5430	ERJ12YJ270	M. RESISTOR CH 1/2W 270	1	
R5431	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R5432, 33	ERJ6GEYG182	M. RESISTOR CH 1/10W 1.8K	2	
R5434	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5435	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5440	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5500, 01	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	2	



## VEP83224B / VEP81074B

Ref.No.	Part No.	Part Name & Description	Pos	Remarks
D1-D5	MA152K	DIODE	5	
D6-11	MA3130-L	DIODE	6	
IC1	NJM78L09UA	IC	1	
IC2	NJM79L09UA	IC	1	
IC3	NJM78L09UA	IC	1	
IC4	NJM79L09UA	IC	1	
IC5	NJM78L09UA	IC	1	
IC6	NJM79L09UA	IC	1	
IC209	NJM78L09UA	IC	1	
IC210	NJM79L09UA	IC	1	
J1, J2	VJS3902	CONNECTOR (FEMALE)	2	
J3	VJS3901	CONNECTOR (FEMALE)	1	
J4, J5	VJS3902	CONNECTOR (FEMALE)	2	
J14	VJP3414A009	CONNECTOR (MALE)	1	
J16	VJP3414A015	CONNECTOR (MALE)	1	
J17	VJP3414A025	CONNECTOR (MALE)	1	
L1	VLQEL05F101J	GOIL 100UH	1	
P1	VJP3375A060	CONNECTOR (MALE)	1	
Q1	2SA1022-B	TRANSISTOR	1	
Q2	2SC2295-B	TRANSISTOR	1	
Q3	2SA1022-B	TRANSISTOR	1	
Q4	2SC2295-B	TRANSISTOR	1	
Q5	2SA1022-B	TRANSISTOR	1	
Q6	2SC2295-B	TRANSISTOR	1	
Q7	2SA1022-B	TRANSISTOR	1	
Q8	2SC2295-B	TRANSISTOR	1	
Q9	2SA1022-B	TRANSISTOR	1	
Q10	2SC2295-B	TRANSISTOR	1	
Q11	2SB709A-R	TRANSISTOR	1	
Q12, 13	2SD601A-R	TRANSISTOR	2	
Q14	2SB709A-R	TRANSISTOR	1	
Q15, 16	2SD601A-R	TRANSISTOR	2	
Q17	2SB709A-R	TRANSISTOR	1	
Q18, 19	2SD601A-R	TRANSISTOR	2	
Q20	2SB709A-R	TRANSISTOR	1	
Q21, 22	2SD601A-R	TRANSISTOR	2	
Q23	2SB709A-R	TRANSISTOR	1	
Q24, 25	2SD601A-R	TRANSISTOR	2	
Q26	2SB709A-R	TRANSISTOR	1	
Q27, 28	2SD601A-R	TRANSISTOR	2	
R1	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R2	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R3	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R4	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R5, R6	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R7	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R8	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R9	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R10	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R11	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R12	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R13, 14	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R15	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R16	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R17	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R18	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R19	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R20	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R21, 22	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R23	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R24	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R25	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R26	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R27	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R28	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R29, 30	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R31	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R32	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R33	VRE0034E750	M. RESISTOR GH 1/10W 75	1	
R34	ERJ66EYG470	M. RESISTOR GH 1/10W 47	1	
R35	ERJ66EYJ334	M. RESISTOR GH 1/10W 330K	1	
R36	ERJ66EYG332	M. RESISTOR GH 1/10W 3.3K	1	
R37, 38	ERJ66EYG470	M. RESISTOR GH 1/10W 47	2	
R39	ERJ66EYG102	M. RESISTOR GH 1/10W 1K	1	
R40	ERJ66EYG330	M. RESISTOR GH 1/10W 33	1	
R41, 42	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	2	
R43	ERJ66EYG470	M. RESISTOR GH 1/10W 47	1	
R44	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	1	
R45, 46	ERJ66EYG221	M. RESISTOR GH 1/10W 220	2	
R47	VRE0034E750	M. RESISTOR GH 1/10W 75	1	
R48-50	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	3	
R51	ERJ66EYG470	M. RESISTOR GH 1/10W 47	1	
R52	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	1	
R53, 54	ERJ66EYG221	M. RESISTOR GH 1/10W 220	2	
R55	VRE0034E750	M. RESISTOR GH 1/10W 75	1	
R56-58	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	3	
R59	ERJ66EYG470	M. RESISTOR GH 1/10W 47	1	
R60	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	1	
R61, 62	ERJ66EYG221	M. RESISTOR GH 1/10W 220	2	
R63	VRE0034E750	M. RESISTOR GH 1/10W 75	1	
R64-66	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	3	
R67	ERJ66EYG470	M. RESISTOR GH 1/10W 47	1	
R68	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	1	
R69, 70	ERJ66EYG221	M. RESISTOR GH 1/10W 220	2	
R71	VRE0034E750	M. RESISTOR GH 1/10W 75	1	
R72-74	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	3	
R75	ERJ66EYG470	M. RESISTOR GH 1/10W 47	1	
R76	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	1	
R77, 78	ERJ66EYG221	M. RESISTOR GH 1/10W 220	2	
R79	VRE0034E750	M. RESISTOR GH 1/10W 75	1	
R80-82	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	3	
R83	ERJ66EYG470	M. RESISTOR GH 1/10W 47	1	
R84	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	1	
R85, 86	ERJ66EYG221	M. RESISTOR GH 1/10W 220	2	
R87	VRE0034E750	M. RESISTOR GH 1/10W 75	1	
R88	ERJ66EYG222	M. RESISTOR GH 1/10W 2.2K	1	
SW1, W2	VSS0307	SWITCH	2	
		MISCELLANEOUS		
	VMP4865	VIDEO I/O ANGLE	1	
	VMP4866	D SUB ANGLE	1	
	VX00102	SCREW	6	
	XTN26+6FFZ	SCREW	4	
	XTN3+10JFZ	SCREW	5	
	XYE3+EF8	SCREW	2	
	VEP81074B	POWER 1 C.B.A.	1	(RTL)
G1, G2	ECQU2A224MN	P. CAPACITOR 100V 0.22U	2	
G3, C4	VCK0260M222A	C. CAPACITOR 2200P	2	
G5	VCK0260M102A	C. CAPACITOR 1000P	1	
C7, C8	ECCE2EG6471XX	E. CAPACITOR 250V 470U	2	
G9, 10	EGA1HXLV220	E. CAPACITOR 50V 22U	2	
G11	EGA1HXLV010	E. CAPACITOR 50V 1U	1	
G12	ECQB1H332JF	E. CAPACITOR 50V 3300P	1	
G13	EGA1HXLV010	E. CAPACITOR 50V 1U	1	
G14	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
G15	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
G16	ECQP1H471GZ	P. CAPACITOR 50V 470P	1	
C17, 18	ECQB1H104JF	P. CAPACITOR 50V 0.1U	2	
G19	ECQB1H562JF	P. CAPACITOR 50V 5600P	1	
G20	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
C21	ECQP1H471GZ	P. CAPACITOR 50V 470P	1	
G22	ECQB1H562JF	P. CAPACITOR 50V 5600P	1	
G23	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
▲ G24, 25	VCK0262K221A	C. CAPACITOR 220P	2	
G26	ECEA1H8E010	E. CAPACITOR 50V 1U	1	
G27	ECKF1H332KB	C. CAPACITOR 50V 3300P	1	
G28	EGA1CX5100	E. CAPACITOR 16V 10U	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C29	ECEA28GE100	E. CAPACITOR 400V 10U	1			VMZ0965	CAPACITOR COVER	3	
C30	ECQV1H105JL	P. CAPACITOR 50V 1U	1			VMZ1608	CAPACITOR COVER	2	
C31	ECQE2A223KF	P. CAPACITOR 100V 0.022U	1			VMZ1798	BARRIER	2	
C32	ECQU2A823MN	P. CAPACITOR 250V 0.082U	1			VMZ1356	CAPACITOR COVER	1	
						XTV3+10G	SCREW	4	
D1	RBV606	DIODE	1						
D2	AC08FGM	DIODE	1						
D3	AP01G	DIODE	1			■ VEP81075B	POWER 2 C.B.A.	1	(RTL)
D4	ERA22-06	DIODE	1						
D10	ERA22-02	DIODE	1						
D12	MA4240-H	DIODE	1			G40, 41	EEUFA1A682E	E. CAPACITOR 10V 6800P	2
D13, 14	ERA22-02	DIODE	2			G42	EEUFA1VQ102LE	E. CAPACITOR 35V 1000U	1
D15	MA4240-H	DIODE	1			G43	EEUFA1E472E	E. CAPACITOR 25V 4700P	1
D17	ERA22-02	DIODE	1			G44	EEUFA1C272E	E. CAPACITOR 16V 2700P	1
D18, 19	MA4051-M	DIODE	2			G45	EEUFA1C102E	E. CAPACITOR 16V 1000P	1
D20-22	MA165	DIODE	3			G46	EEUFA1E681E	E. CAPACITOR 25V 680P	1
D23, 24	MA4051-M	DIODE	2			G47, 48	ECA1CX101	E. CAPACITOR 16V 100U	2
D25	MA4082H	DIODE	1			G49	ECEA1VGE471	E. CAPACITOR 35V 470U	1
D26	MA4051-M	DIODE	1			G50	ECA1EXLV101X	E. CAPACITOR 25V 100U	1
						G51-53	ECA1CX101	E. CAPACITOR 16V 100U	3
IC1, G2	FA5311P	IC	2			G54-56	ECQB1H104JF	P. CAPACITOR 50V 0.1U	3
IC3	MK1210	IC	1			G59	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1
						G60	ECKF1H121KB	G. CAPACITOR 50V 120P	1
△ L2	ETQHC2R0A	COIL	1			G61	VCK0106K151	G. CAPACITOR 150P	1
△ L3	ELF18D604	COIL	1			G62	VCK0106K221	G. CAPACITOR 220P	1
						G63	ECA1VXLV470	E. CAPACITOR 35V 47U	1
P1	VJP2638	CONNECTOR (MALE)	1			G64	VCK0106K151	G. CAPACITOR 150P	1
P2, P3	VJP2639	CONNECTOR (MALE)	2			G65	VCK0106K221	G. CAPACITOR 220P	1
P4	VJP2824A007	CONNECTOR (MALE)	1			G66	ECA1VXLV470	E. CAPACITOR 35V 47U	1
P5	VJP3080	CONNECTOR (MALE)	1			G67, 68	ECQE6473KF	P. CAPACITOR 630V 0.047U	2
						G69	ECKD2H101KB	G. CAPACITOR 500V 100P	1
Q2, Q3	2SD893	TRANSISTOR	2			G70-75	ECKF1H101KB	G. CAPACITOR 50V 100P	6
Q4	UN1111	TRANSISTOR-RESISTOR	1			G76-78	EEUFA1A822E	E. CAPACITOR 10V 8200P	3
Q5	2SD637	TRANSISTOR	1			G79	ECKF1H121KB	G. CAPACITOR 50V 120P	1
						G80, 81	ECQB1H222JF	P. CAPACITOR 50V 2200P	2
						G82	ECQV1H823JL	P. CAPACITOR 50V 0.082U	1
R1	ERC126M334	S. RESISTOR 1/2W 330K	1						
R2	ERDS2TJ103	G. RESISTOR 1/4W 10K	1			D30	D30SC4M	DIODE	1
R3	ERDS2FJ102	G. RESISTOR 1/4W 1K	1			D31	FML12SP	DIODE	1
R4	ER82SJ471	M. RESISTOR 2W 470	1			D32	RL4Z	DIODE	1
△ R5	ERUSTEK100	F. RESISTOR 5W 10	1			D33	FML-G12SP	DIODE	1
R6	ER83SJ101	M. RESISTOR 3W 100	1			D34	FMB-G14L	DIODE	1
R7, R8	ERDS2FJ684	G. RESISTOR 1/4W 680K	2			D35	31DQ04	DIODE	1
R9	ERDS1TJ220	G. RESISTOR 1/2W 22	1			D36	RL22P	DIODE	1
R10	ERDS2FJ104	G. RESISTOR 1/4W 100K	1			D37, 38	MA4075M	DIODE	2
R11	EROS2CKF4700	M. RESISTOR 1/4W 470	1			D39	MA4300-L	DIODE	1
R12, 13	ERDS2FJ104	G. RESISTOR 1/4W 100K	2			D40	MA4160-L	DIODE	1
R14, 15	ERDS1TJ394	G. RESISTOR 1/2W 390K	2			D41, 42	MA4130-M	DIODE	2
R16	ERDS1TJ220	G. RESISTOR 1/2W 22	1			D43	MA4160-L	DIODE	1
R17	EROS2CKF4700	M. RESISTOR 1/4W 470	1			D44, 45	ERA22-06	DIODE	2
R18, 19	ERDS2FJ105	G. RESISTOR 1/4W 1M	2			D46	AP01G	DIODE	1
R20	ERDS1TJ470	G. RESISTOR 1/2W 47	1			D47	ERA22-02	DIODE	1
R22	ERDS1TJ334	G. RESISTOR 1/2W 330K	1			D48	MA4240-H	DIODE	1
R23, 24	ERDS1TJ104	G. RESISTOR 1/2W 100K	2			D49	AP01G	DIODE	1
R25	ERDS2FJ103	G. RESISTOR 1/4W 10K	1			D50	ERA22-02	DIODE	1
R26	ERDS2FJ473	G. RESISTOR 1/4W 47K	1			D51	MA4240-H	DIODE	1
R27	ERDS2FJ563	G. RESISTOR 1/4W 56K	1						
R28	EROS2CKF4701	M. RESISTOR 1/4W 4.7K	1						
R29	ERDS2FJ221	G. RESISTOR 1/4W 220	1			IC11, 12	UPC1093J	IC	2
R30	EROS2CKF2700	M. RESISTOR 1/4W 270	1						
R31	ERDS1TJ470	G. RESISTOR 1/2W 47	1			L12	VLQ0479	COIL	1
R32	ERDS1TJ334	G. RESISTOR 1/2W 330K	1			L13	VLQ0605	COIL	1
R33, 34	ERDS1TJ104	G. RESISTOR 1/2W 100K	2			L14	VLQ0354	COIL	1
R36	ERDS2FJ104	G. RESISTOR 1/4W 100K	1			L15	VLQ0605	COIL	1
R37	EROS2CKF4701	M. RESISTOR 1/4W 4.7K	1			L16	VLQ0354	COIL	1
R38	ERDS2FJ221	G. RESISTOR 1/4W 220	1			L17, 18	VLQ0410	COIL	2
R39	EROS2CKF2700	M. RESISTOR 1/4W 270	1			L19-22	VLP0074	COIL	4
R40, 41	ERDS1TJ394	G. RESISTOR 1/2W 390K	2						
R42	ERDS2FJ684	G. RESISTOR 1/4W 680K	1			P11	VJP2824B003	CONNECTOR (MALE)	1
R44	ERDS2FJ104	G. RESISTOR 1/4W 100K	1			P12	VJP2824B006	CONNECTOR (MALE)	6P
R46, 47	ERDS2FJ473	G. RESISTOR 1/4W 47K	2			P13	VJP2824B008	CONNECTOR (MALE)	1
						P14	VJP1243T	CONNECTOR (MALE)	3P
		MISCELLANEOUS							
	VSC3434	SHIELD CASE	1			△ Q11, 12	2SK1684	TRANSISTOR	2
	XYN3+F6FZS	SCREW	1			Q13-16	PS2561L1V1WL	TRANSISTOR-PHOTO COUPLER	4
						Q18	UN1214	TRANSISTOR-RESISTOR	1

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q19	UN1114	TRANSISTOR-RESISTOR	1	
R50	ER02SJ470	M. RESISTOR 2W 47	1	
R51, 52	ERDS2FJ183	C. RESISTOR 1/4W 18K	2	
R53	EROS2CKF1801	M. RESISTOR 1/4W 1.8K	1	
R54	ER02SJ470	M. RESISTOR 2W 47	1	
R55	VRT0142	THERMISTOR	1	
R56	ERDS2TJ331	C. RESISTOR 1/4W 330	1	
R57	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R58	EROS2CKF3601	M. RESISTOR 1/4W 3.6K	1	
R59	EROS2CKF4700	M. RESISTOR 1/4W 470	1	
R60	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R63	ERDS2TJ221	C. RESISTOR 1/4W 220	1	
R64	ER02SJ681	M. RESISTOR 2W 680	1	
R65	ER02SJ221	M. RESISTOR 2W 220	1	
R66	ERDS2TJ331	C. RESISTOR 1/4W 330	1	
R67	ERDS2TJ221	C. RESISTOR 1/4W 220	1	
R68	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R69	EROS2CKF6801	M. RESISTOR 1/4W 6.8K	1	
R70	EROS2CKF1601	M. RESISTOR 1/4W 1.6K	1	
R71	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R72	ER03SJ383	M. RESISTOR 3W 38K	1	
R73	ER02SJ180	M. RESISTOR 2W 18	1	
R74	ERDS2FJ100	C. RESISTOR 1/4W 10	1	
R75	ERDS2FJ104	C. RESISTOR 1/4W 100K	1	
R76	ERW1PKR33	W. RESISTOR 1W 0.33	1	
R77	ER03SJ383	M. RESISTOR 3W 38K	1	
R78	ER02SJ180	M. RESISTOR 2W 18	1	
R79	ERDS2FJ100	C. RESISTOR 1/4W 10	1	
R80	ERDS2FJ104	C. RESISTOR 1/4W 100K	1	
R81	ERW1PKR33	W. RESISTOR 1W 0.33	1	
△ T1	VLT0860	TRANSFORMER	1	
△ T2	VLT0861	TRANSFORMER	1	
VR1, R2	VRV0064B501	V. RESISTOR 500	2	
		MISCELLANEOUS		
	VSC4389	HEAT SINK (A)	1	
	VSC4390	HEAT SINK (B)	1	
	XYN3+8FZS	SCREW	7	
	VMZ2504	INSULATION SHEET	1	
	XYN3+8FZS	SCREW	4	
■ VEP80856A	GARRIGE C. B. A.		1 (RTL)	
P1	VJP1249T	CONNECTOR (MALE) 9P	1	
P2	VJS2889A012	CONNECTOR (FEMALE)	1	
P3	VJS2889A016	CONNECTOR (FEMALE)	1	
R1-R7	ERDS2TJ221	C. RESISTOR 1/4W 220	7	
■ VEP82214A	MECH I/F C. B. A.		1 (RTL)	
■ VEP82210A	MECH I/F SUB C. B. A.		1 (RTL)	
G1	02 EGEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1	ECUM1H561JCH	C. CAPACITOR CH 50V 560P	1	
G2	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G5	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G6	EGEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G7	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G8	EGEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G9, 10	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G11	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G12	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G13, 14	EGEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
G15	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G20	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
G21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G22	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	1	
G23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C100	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G101	EGEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G102	EGAT1HEN101	E. CAPACITOR 50V 100U	1	
D1	MA157	DIODE	1	
D1	02 MA738	DIODE	1	
D100, 01	MA738	DIODE	2	
IC1	OP177GS	IC	1	
IC1	02 MC14538BF	IC	1	
IC2	OP177GS	IC	1	
IC3	NJM4580ED	IC	1	
IC4-C6	UPC4558G2	IC	3	
IC10	NJM78L09UA	IC	1	
IC11	NJM78L09UA	IC	1	
L1, L2	VLF1016A470	FILTER	2	
L100	VLP0133	COIL	1	
P1	VJP2891A030	CONNECTOR (MALE)	1	
P2	VJP3418A080	CONNECTOR (MALE)	1	
P11	VJP3172D002	CONNECTOR (MALE)	1	
P12	VJP3172D005	CONNECTOR (MALE)	1	
P13	VJP3172D002	CONNECTOR (MALE)	1	
P14	VJP3172D003	CONNECTOR (MALE)	1	
P15	VJP3518B002	CONNECTOR (MALE)	1	
P16	VJP3518B003	CONNECTOR (MALE)	1	
P17	VJS3801B010	CONNECTOR (FEMALE)	1	
P18	VJP3518B002	CONNECTOR (MALE)	1	
P19	VJP3172D002	CONNECTOR (MALE)	1	
P20	VJP3518B003	CONNECTOR (MALE)	1	
P21	VJP3518B002	CONNECTOR (MALE)	1	
P22, 23	VJP3172D004	CONNECTOR (MALE)	2	
P24	VJP3518B002	CONNECTOR (MALE)	1	
P25	VJP1230T	CONNECTOR (MALE) 3P	1	
P26	VJP1236T	CONNECTOR (MALE) 9P	1	
P30	VJP3172D003	CONNECTOR (MALE)	1	
P32	VJP3172D004	CONNECTOR (MALE)	1	
P33	VJS3406B015	CONNECTOR (FEMALE)	1	
P34, 35	VJS2889A017	CONNECTOR (FEMALE)	2	
P36	VJS3406B019	CONNECTOR (FEMALE)	1	
P41	VJP3172D002	CONNECTOR (MALE)	1	
P48	VJP3125B002	CONNECTOR (MALE)	1	
Q1	02 2SB1073-R	TRANSISTOR	1	
Q1	2SB1218A-R	TRANSISTOR	1	
Q100	2SB1073-R	TRANSISTOR	1	
QR1	UN2214	TRANSISTOR-RESISTOR	1	
QR100	UN2214	TRANSISTOR-RESISTOR	1	
R1	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R1	02 ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R2	02 ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R2, R3	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	2	
R3	02 ERJ8GCYJ102	M. RESISTOR CH 1/8W 1K	1	
R4	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R5	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R6, R7	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	2	
R8	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R9, 10	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	2	
R11	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R12, 13	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R14	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R15	VRE0034E823	M. RESISTOR CH 1/10W 82K	1	
R16	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R17	ERJ6GEYG273	M. RESISTOR CH 1/10W 27K	1	
R18	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R19	ERJ6GEYG273	M. RESISTOR CH 1/10W 27K	1	
R20	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R21	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	
R22	VRE0034E473	M. RESISTOR CH 1/10W 47K	1	
R23	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R24	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R25	VRE0034E391	M. RESISTOR CH 1/10W 390	1	



VEP82210A / VEP84291A / VEP80A12A / VEP86256A

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R27	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	R111	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R34	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	R112	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R36, 37	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	2	R116	ERJ6GEY0330	M. RESISTOR CH 1/10W 33	1	
R100	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1		R117, 18	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R101	ERJ8GCGJ102	M. RESISTOR CH 1/8W 1K	1		R119	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R102	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		R120	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
TG1	VJR0646	TEST POINT		1	R121, 22	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	2	
TP1	VJR0646	TEST POINT		1	R123	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
VR1	VRV0064B203	V. RESISTOR 20K	1		R124	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
VR2	VRV0064B503	V. RESISTOR 50K	1		R125, 26	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
		MISCELLANEOUS			R127	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
	VJR0422	SHAFT		3	R128	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
					R129, 30	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	2	
■ VEP84291A	A JACK C.B.A.		1	(RTL)	R131	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
					R132	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
G1, G2	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2		R133	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
G7, G8	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2		R134, 35	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
G101	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		R136	ERJ6GEY0105	M. RESISTOR CH 1/10W 1M	1	
G102	EGA1CX5470	E. CAPACITOR 16V 47U	1		R137	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
G103	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		R138	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1	
G104	EGA1CX5470	E. CAPACITOR 16V 47U	1		R139	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
G105-08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		R140	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
G109	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1				MISCELLANEOUS		
G110	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1			VMP4867	XLR GUIDE ANGLE (A)	1	
G111	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1			XYN26+F8	SCREW	2	
G112	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1						
G113-17	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5		■ VEP80A12A	TC & JACK C.B.A.		1	(RTL)
G121, 22	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	2						
D1, D2	MA152K	DIODE	2		J1, J2	VJS3155	CONNECTOR (FEMALE)	2	
D3, D4	MA3130-L	DIODE	2		J3, J4	VJS3154	CONNECTOR (FEMALE)	2	
IC1	NJM78L09UA	IC	1		J5	VJJ0322	MOTOR JACK	1	
IC2	NJM79L09UA	IC	1		P1	VJP3094	CONNECTOR (MALE)	1	
J1, J2	VJS3417	CONNECTOR (FEMALE)	2				MISCELLANEOUS		
J7, J8	VJP3417	CONNECTOR (MALE)	2			VSC4617	RCA SHIELD PLATE	1	
P1	VJP3375A060	CONNECTOR (MALE)	1						
P2	VJP3094	CONNECTOR (MALE)	1		■ VEP86256A	FRONT CPU C.B.A.		1	(RTL)
Q1	2SA1022-B	TRANSISTOR	1						
Q2	2SC2295-B	TRANSISTOR	1		G1	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
Q3	2SA1022-B	TRANSISTOR	1		G2	ECEV1HV2R20	E. CAPACITOR CH 50V 2.2U	1	
Q5	2SB709A-R	TRANSISTOR	1		G3	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
Q6, Q7	2SD601A-R	TRANSISTOR	2		G4, G5	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	2	
Q8	2SB709A-R	TRANSISTOR	1		G6	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
Q9, 10	2SD601A-R	TRANSISTOR	2		G7-12	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	6	
Q11	UN2112	TRANSISTOR-RESISTOR	1		G13	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
Q12	2SD601A-R	TRANSISTOR	1		G14	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
Q13	UN2213	TRANSISTOR-RESISTOR	1		G15-17	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
R2	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	G18	ECEAOJGE471	E. CAPACITOR 6.3V 470U	1	
R4	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	G19	ECEV1HV0100	E. CAPACITOR CH 50V 1U	1	
R6	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	G20, 21	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	2	
R8	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	G22	ECEA1H0E330	E. CAPACITOR 50V 33U	1	
R26	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	G23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
R28	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	G24	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
R30	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	G25, 26	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
R32	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	G27	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
R101	VRE0034E750	M. RESISTOR CH 1/10W 75	1		G28, 29	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
R103	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1		G30	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
R104	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1		G31, 32	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
R105, 06	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2		G33	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
R107	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1		G34, 35	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
R108	ERJ6GEY0330	M. RESISTOR CH 1/10W 33	1		G36	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
R109	VRE0034E750	M. RESISTOR CH 1/10W 75	1		G40	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
R110	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1		D1	LN28RCPP	LED	1	
					D2-D5	LN38GCPP	LED	4	
					D7-14	MA152WK	DIODE	8	
					D15-18	MA152K	DIODE	4	

VEP86256A / VEP80A09A / VEP80A10A / VEP80991A

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D19	MA152WK	DIODE	1	
D20-24	MA152K	DIODE	5	
D25	MA4300-M	DIODE	1	
D26	MA166	DIODE	1	
D27	MA4062M	DIODE	1	
D28, 29	MA166	DIODE	2	
DP1	VSL0489	DISPLAY	1	
F1	EYP2BN135	FUSE	1	
FL1-L4	VLF1016A470	FILTER	4	
IC1	HD64180ZRP8	IC	1	
IC2	VSI2386	IC	1	
IC3	K6256CLG7L	IC	1	
IC4	TL7705CPSB	IC	1	
IC5	74F32SJ	IC	1	
IC6	MC74HC04AF	IC	1	
IC7	MC74HC32AF	IC	1	
IC8	UPD710556B	IC	1	
IC9	MC74HC4538A	IC	1	
IC10	MC34051M	IC	1	
IC11	UPD16310GF	IC	1	
IC12	NJM78L09UA	IC	1	
IC13	NJM79L09UA	IC	1	
IC14, 15	NJM4580ED	IC	2	
IS2	VJS2336A032	CONNECTOR (FEMALE)	1	
L1	VLP0133	COIL	1	
P1	VJP1243T	CONNECTOR (MALE)	3P	1
P2	VJP3095	CONNECTOR (MALE)	1	
P3	VJP3088	CONNECTOR (MALE)	1	
P4	VJP3091	CONNECTOR (MALE)	1	
Q1-Q5	2SD601A-R	TRANSISTOR	5	
Q6, Q7	2SC1815Y	TRANSISTOR	2	
Q8	2SC3074Y	TRANSISTOR	1	
QRT1-R3	UN2214	TRANSISTOR-RESISTOR	3	
R1	ERJ6GEY0222	M.RESISTOR CH 1/10W 2.2K	1	
R8-15	ERJ6GEY0103	M.RESISTOR CH 1/10W 10K	8	
R16	ERJ6GEY0222	M.RESISTOR CH 1/10W 2.2K	1	
R17	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R18-25	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	8	
R26, 27	ERJ6GEY0223	M.RESISTOR CH 1/10W 22K	2	
R28	ERJ6GEY0221	M.RESISTOR CH 1/10W 220	1	
R29, 30	ERJ6GEY0223	M.RESISTOR CH 1/10W 22K	2	
R31	ERJ6GEY0221	M.RESISTOR CH 1/10W 220	1	
R32, 33	ERJ6GEY0223	M.RESISTOR CH 1/10W 22K	2	
R34	ERJ6GEY0221	M.RESISTOR CH 1/10W 220	1	
R35, 36	ERJ6GEY0223	M.RESISTOR CH 1/10W 22K	2	
R37	ERJ6GEY0221	M.RESISTOR CH 1/10W 220	1	
R38, 39	ERJ6GEY0223	M.RESISTOR CH 1/10W 22K	2	
R40	ERJ6GEY0221	M.RESISTOR CH 1/10W 220	1	
R44	ERJ6GEY0103	M.RESISTOR CH 1/10W 10K	1	
R49, 50	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	2	
R51, 52	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	2	
R53	ERJ6GEY0101	M.RESISTOR CH 1/10W 100	1	
R54	ERJ6GEY0103	M.RESISTOR CH 1/10W 10K	1	
R55	ERDS2TJ222	G.RESISTOR 1/4W 2.2K	1	
R56, 57	ERDS2TJ221	G.RESISTOR 1/4W 220	2	
R58	ERDS2TJ220	G.RESISTOR 1/4W 22	1	
R59	ERJ8GCYJ103	M.RESISTOR CH 1/8W 10K	1	
R60, 61	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R63	ERJ6GEY0222	M.RESISTOR CH 1/10W 2.2K	1	
R64, 65	ERJ6GEY0103	M.RESISTOR CH 1/10W 10K	2	
R67	ERJ6GEY0222	M.RESISTOR CH 1/10W 2.2K	1	
R68, 69	ERJ6GEY0103	M.RESISTOR CH 1/10W 10K	2	
R72	ERDS2T0	G.RESISTOR 1/4W 0	1	
SW2-W8	VSP1005	SWITCH	7	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
SW9-16	VSP1031	SWITCH	8	
SW17, 18	VSS0280	SWITCH	2	
SW19, 20	VSS0346	SWITCH	2	
SW21, 22	VSS0280	SWITCH	2	
SW23	VSS0346	SWITCH	1	
TG1	EYF6CU	TEST POINT	1	
TR1	VLT0884	TRANSFORMER	1	
VR1, R2	EVUFAE03A14	V.RESISTOR 10K	2	
X1	VSX0641	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VMX1858	SPACER	5	
	VJF1296	LCD HOLDER	1	
	■ VEP80A09A	EJECT C.B.A.	1 (RTL)	
P5	VJP1243T	CONNECTOR (MALE)	3P	1
SW1	VSP1005	SWITCH	1	
	■ VEP80A10A	HEAD PHONE C.B.A.	1 (RTL)	
FL1, L2	VLF1356	FILTER	2	
IC1	NJM4556D	IC	1	
J1	VJJ0378	JACK	1	
P1	VJP3076	CONNECTOR (MALE)	1	
Q1, Q2	2SD1330-S	TRANSISTOR	2	
R1, R2	ERDS2TJ102	G.RESISTOR 1/4W 1K	2	
R3, R4	ERDS1TJ150	G.RESISTOR CH 1/2W 15	2	
R5, R6	ERDS2TJ102	G.RESISTOR 1/4W 1K	2	
VR1	EVUNCA040A14	V.RESISTOR 10K	1	
		MISCELLANEOUS		
	VMP5241	FRONT JACK ANGLE	1	
	XTV3+6F	SCREW	1	
	VMP5137	H.P. GND ANGLE	1	
	■ VEP80991A	AC HEAD IF C.B.A.	1 (RTL)	
P1	VJP2278	CONNECTOR (MALE)	1	
P2	VJP1881T	CONNECTOR (MALE)	1	

### Servicing Fixtures & Tools

ITEM	PART No.	JIG & EQUIPMENT	Pcs	Remarks
Jig Tool	VFK1145	Back Tension Meter (T2-M30-P)	1	
	VFK1149	Post Driver	1	
	VFK71	Dial Torque Gauge (150g)	1	
	VFK1191	Dial Torque Gauge (45g)	1	
	VFK1152	Dial Torque Gauge Adaptor	1	
	VFK0357	Eccentric Screwdriver (1.5)	1	
	VFK1154	Post Height Fixture	1	
	VFK1153	Mech. Neutral Plate (Post)	1	
	VFK1157	Mech. Neutral Plate (Cassette)	1	
	VFK1155	Neutral Position Tool (Gold)	1	
	VFK1156	Neutral Position Tool (Black)	1	
	VFK1208	Neutral Position Tool (Black With Hole)	1	
	VFK1150	Nut Driver (5.5mm)	1	
	VFK1151	Nut Driver (2.5mm)	1	
	VFK1188	Dial Tension Gauge (30g)	1	
	VFK0948	Check Light	1	
	VFK0749	Froiral Grease (for plastic)	1	
	MOR265	Morlytone Grease (for metal)	1	
	VFK1146	Phillips Driver (Fine)(00-75)	1	
	VFK1147	Phillips Driver (Fine)(0-100)	1	
	VFK1148	Hex. Driver (1.5)	1	
	VFK1178	Hex. Driver (0.89)	1	
	VFK1179	Hex. Driver (0.71)	1	
	VFK1190	Hex. Wrench	1	
	VFK1209	Torque Driver (0.4-3Kg)	1	
	VFK0912	Post Axis Driver (1.5mm)	1	
	DAQ-12	A/D Board	1	Purchase locally
	VFM3680KM	Alignment Tape (No. 1)	1	
	VFM3681KM	Alignment Tape (No. 2)	1	
	VFM3682KM	Alignment Tape (No. 3)	1	
	AJ-CL12MP	Cleaning Tape	1	SALES
	VFK1159	LISTA Software	1	
	VFK1186	LISTA CABLE	1	
	VFK1192	F EXTENSION BOARD	1	
	VFK1193	H EXTENSION BOARD	1	
	VFK0369	Tweezers	1	
	VFK0371	Radio Prier	1	
	VFK0372	Cutter Prier	1	
	VFK0338	Trimmer Adjustment Driver	1	
	VFK0337	Phillips Driver	1	
	VFM3000EDS	Alignment Tape (DV LISTA)	1	
	VFM3110EDS	Alignment Tape (DV Color Bar)	1	



# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Reduction of Noise from Cylinder Circuit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	23	VSD9606M502A/B	J6TRB0163
AJ-D650E/EN	1	VSD9612MJ01A/B	K6TRA0001
AJ-D640E/EN	1	VSD9612MJ01A/B	K6TRA0001

Board : MECHA I/F (VEP82214A)

Symptom : High Error Rate may occur.

Cause : Noise from the Cylinder circuit may jump into the RF circuit. It results in High Error Rate.

Remedy : To improve the Error Rate, the following modification is performed.

- 1). Add a capacitor C200 (50V/100pF) between pins #2 and #26 of P1 on the foil side as shown in figures 1 and 2.
- 2). Add a capacitor C201 (50V/100pF) between pins #1 and #27 of P1 on the foil side as shown in figures 1 and 2.
- 3). Add a capacitor C202 (50V/100pF) between pin #28 of P1 and land of GND on the foil side as shown in figures 1 and 2.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C200 ~ 02	---	ECCF1H101JC	C. CAPACITOR 50V 100P	0→3	

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# MECHA I/F (3/4) Schematic Diagram

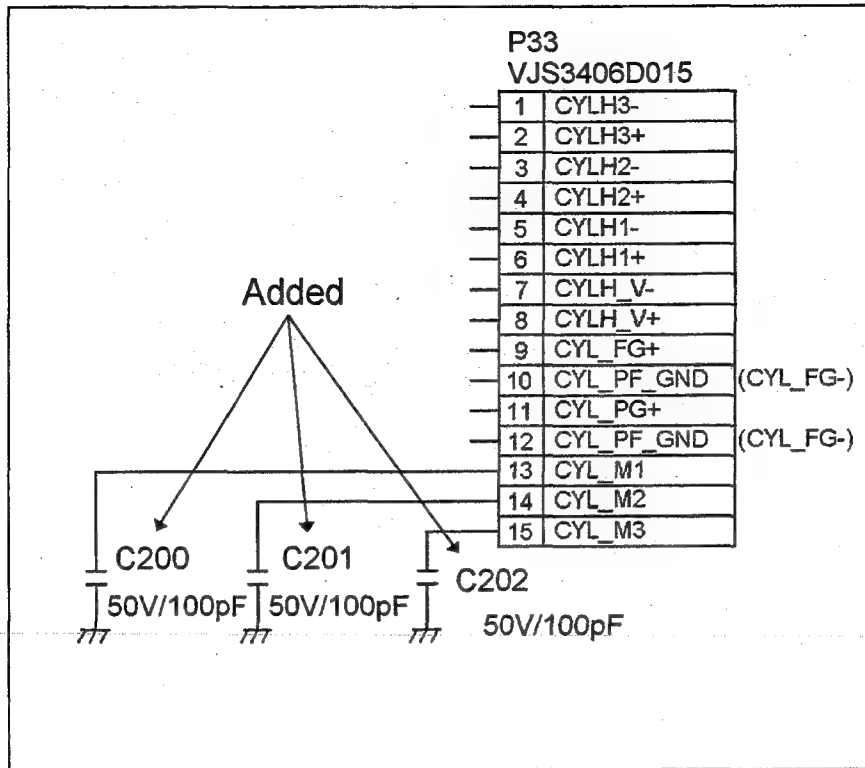


Fig. 1 Page 2-190 (C-7)

## MECHA I/F P.C.Board (VEP82214A)

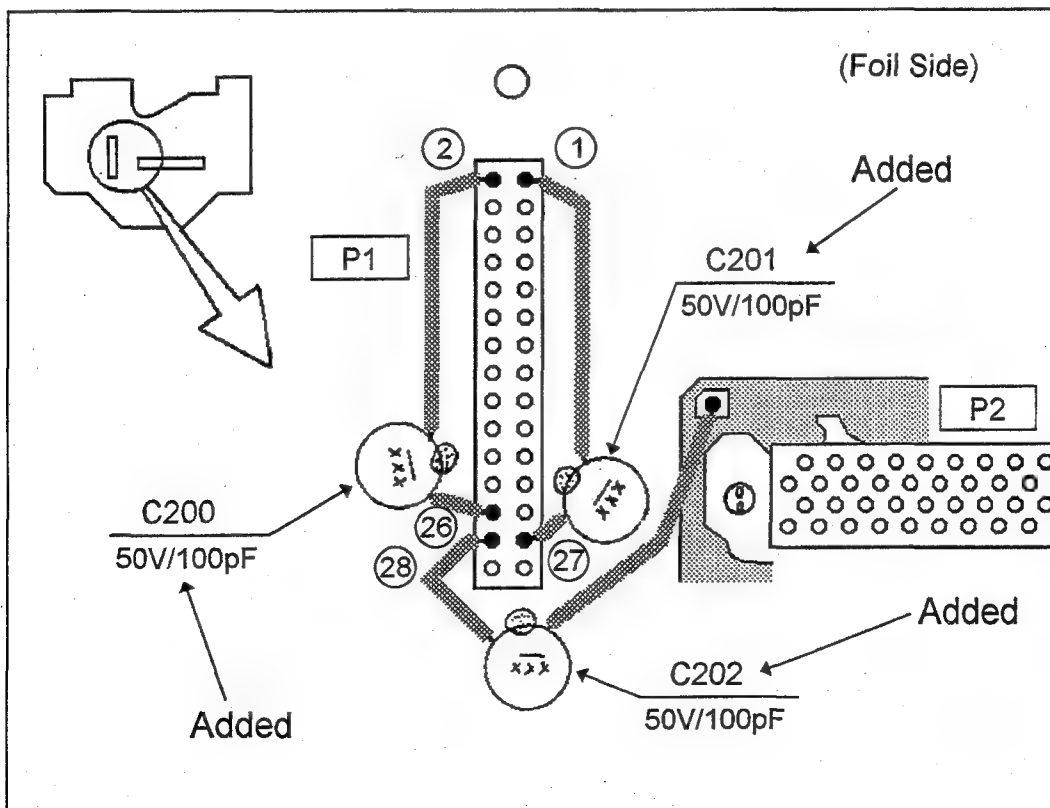


Fig. 2 Page 3-18 (D-2~3)

V181116

Order No. VSD9701SA627

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Improvement of PLL Unlock under Low Temperature (-10°C)**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	27	VSD9606M502A/B	A7TRB0001
AJ-D650E/EN	2	VSD9612MJ01A/B	A7TRA0001
AJ-D640E/EN	2	VSD9612MJ01A/B	A7TRA0001

Board : EQ (H3:VEP85048A)

Symptom : PLL may not be locked under low temperature. (-10°C)

Cause : Output voltage may oscillate due to the lack of input capacity of 3 terminals regulator.

Remedy : To prevent the PLL unlock, the following modification is performed.

- 1). Add a capacitor C5995 (16V/47 $\mu$ F) between terminals I (plus side) and G (minus side) of IC5956 on the component side as shown in figures 1 and 2.
- 2). Add a capacitor C5996 (16V/47 $\mu$ F) between terminals G (plus side) and I (minus side) of IC5958 on the component side as shown in figures 3 and 4.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C5995, 56	—	ECEA1CGE470	E. CAPACITOR 16V 47U	0→2	

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# EQ (H3 9/9) Schematic Diagram

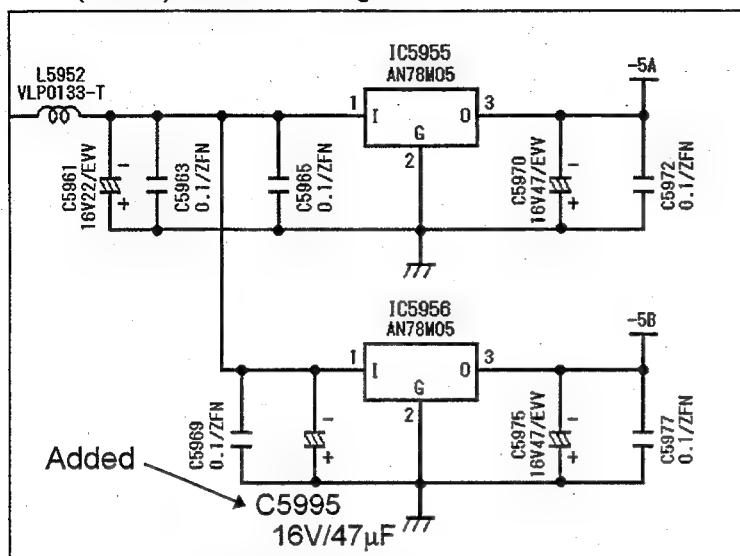


Fig. 1 Page 2-173 (E-5) - AJ-D750  
Page 2-135 (B-5) - AJ-D640/D650

# EQ P.C.Board (VEP85048A)

## (Component Side)

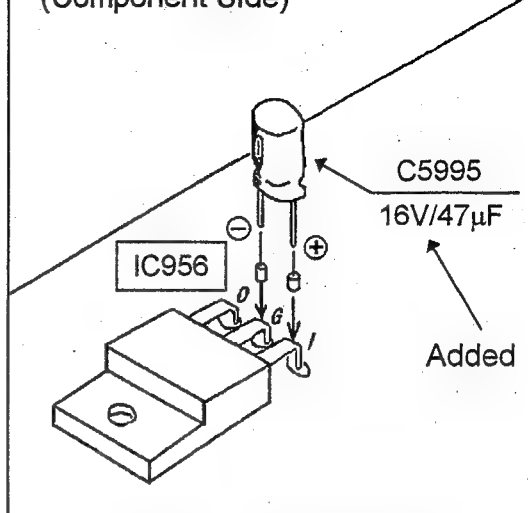


Fig. 2 Page 3-12 (A-2) - AJ-D750  
Page 3-10 (A-2) - AJ-D640/D650

# EQ (H3 9/9) Schematic Diagram

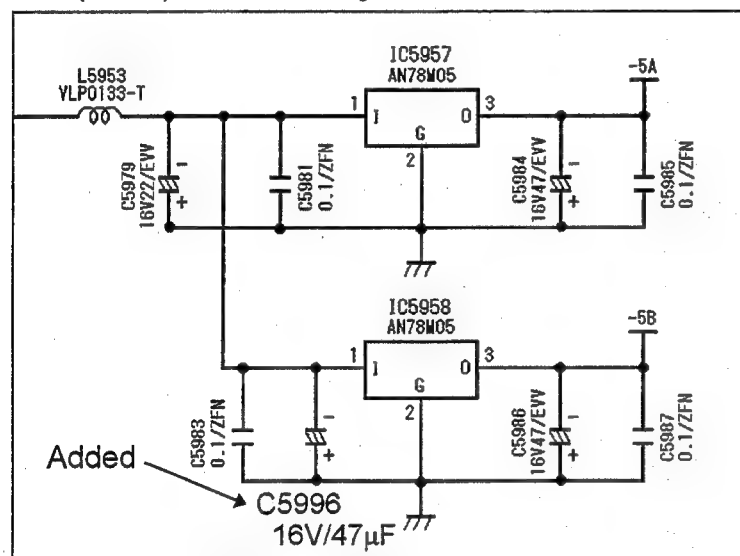


Fig. 3 Page 2-173 (E-7) - AJ-D750  
Page 2-135 (B-7) - AJ-D640/D650

# EQ P.C.Board (VEP85048A)

## (Component Side)

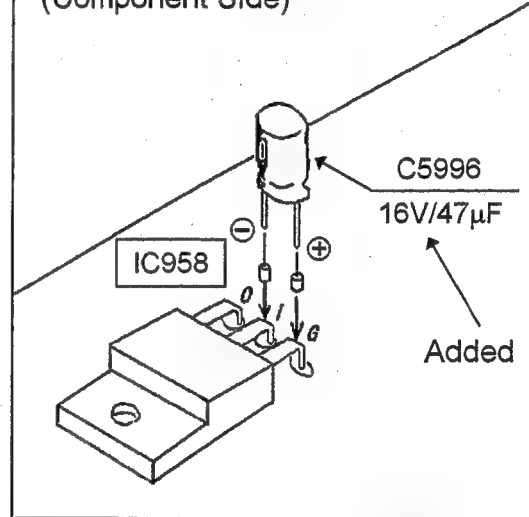
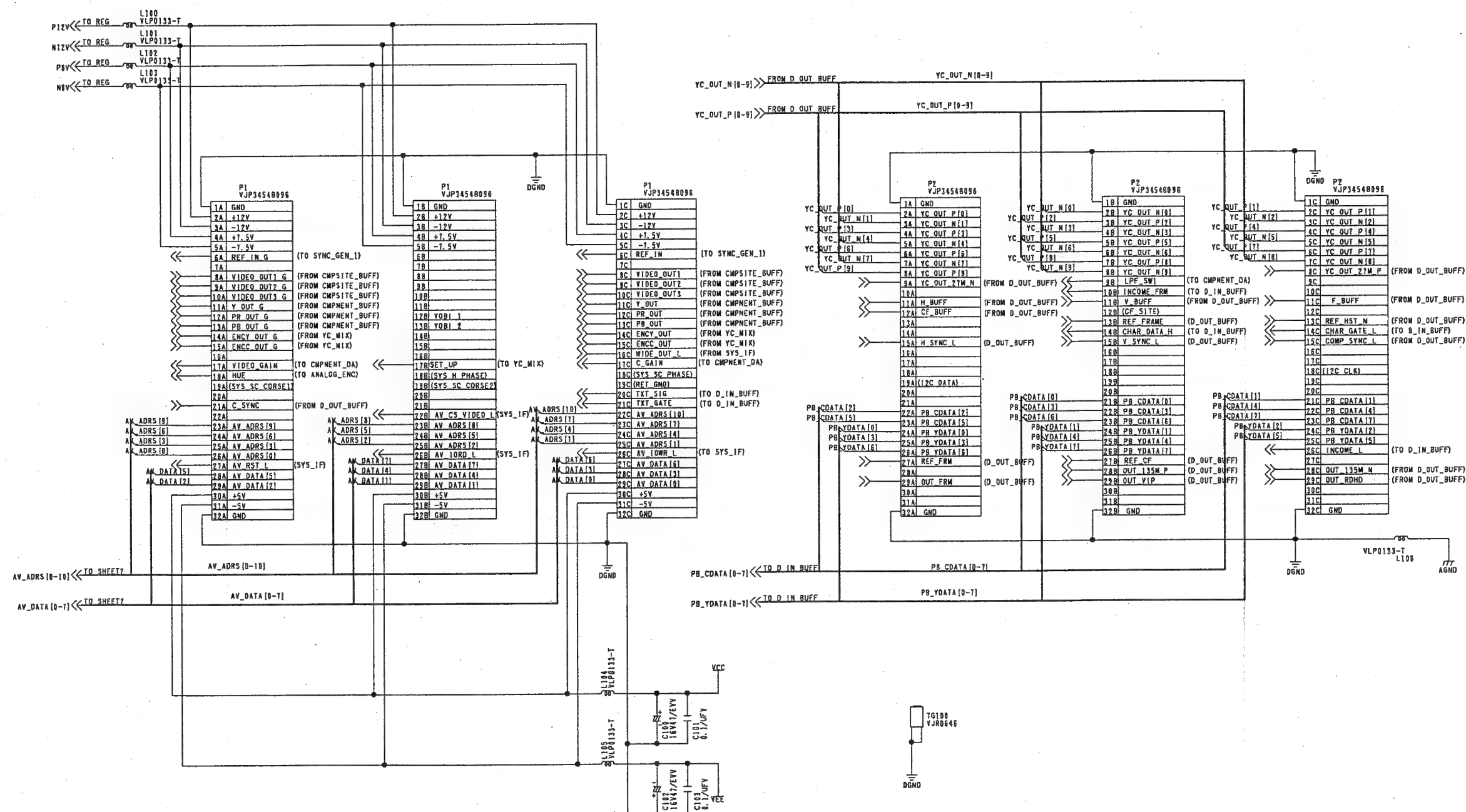


Fig. 4 Page 3-12 (A-3) - AJ-D750  
Page 3-10 (A-3) - AJ-D640/D650

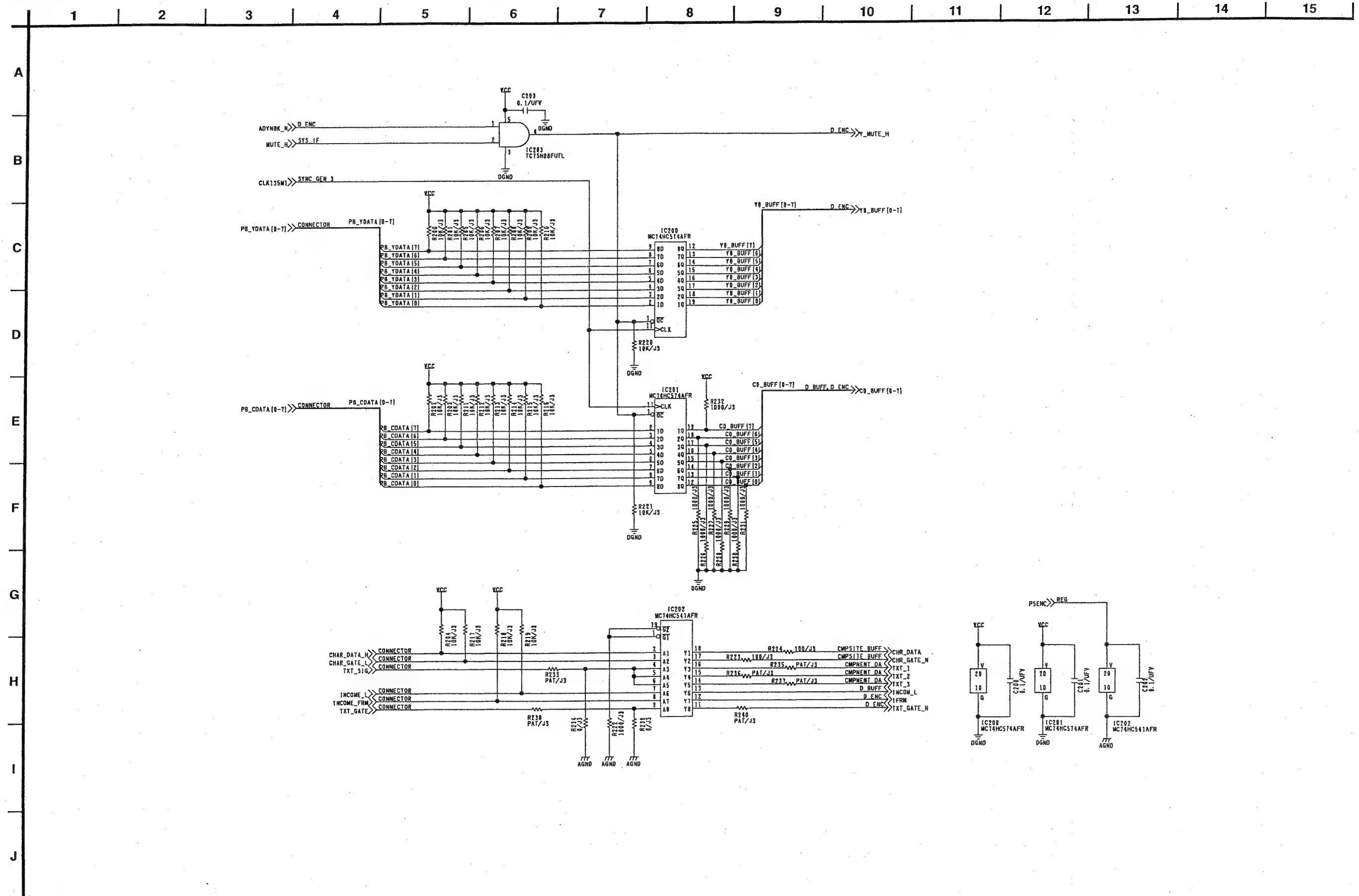


### V OUT CONNECTR (F4 1/16) SCHEMATIC DIAGRAM



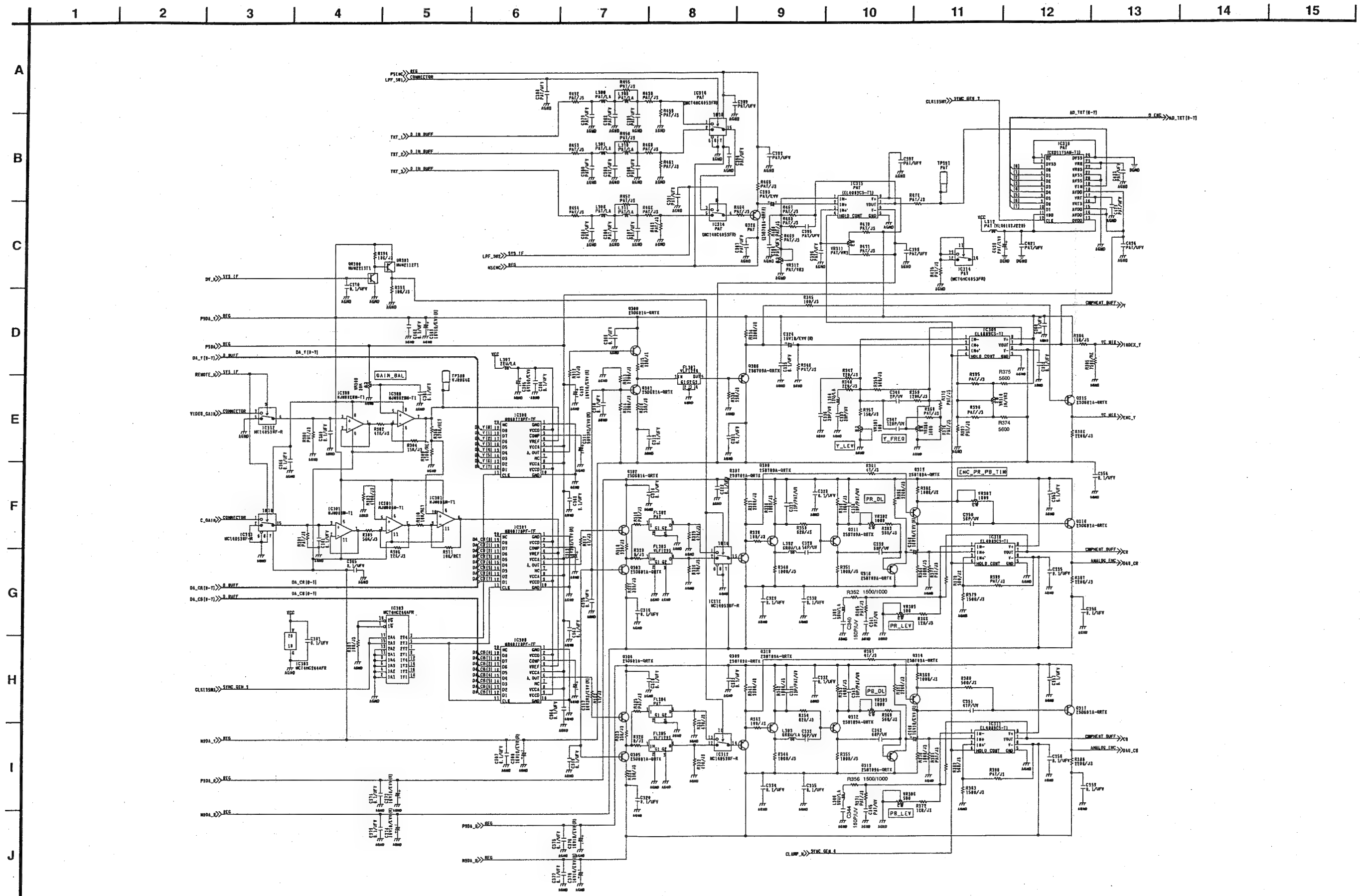


# V OUT D IN BUFF (F4 3/16) SCHEMATIC DIAGRAM



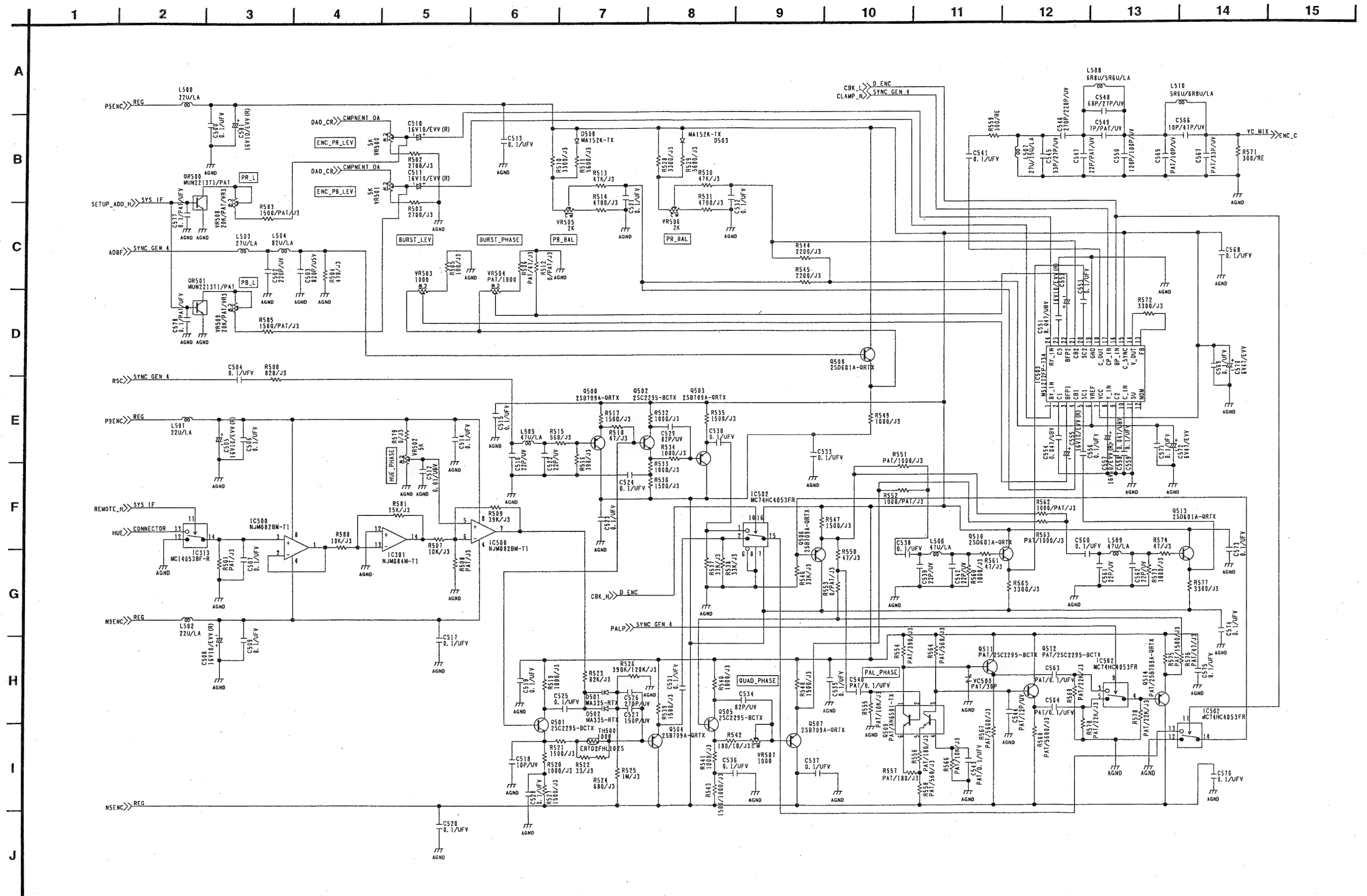


## V OUT CMPNENT DA (F4 5/16) SCHEMATIC DIAGRAM

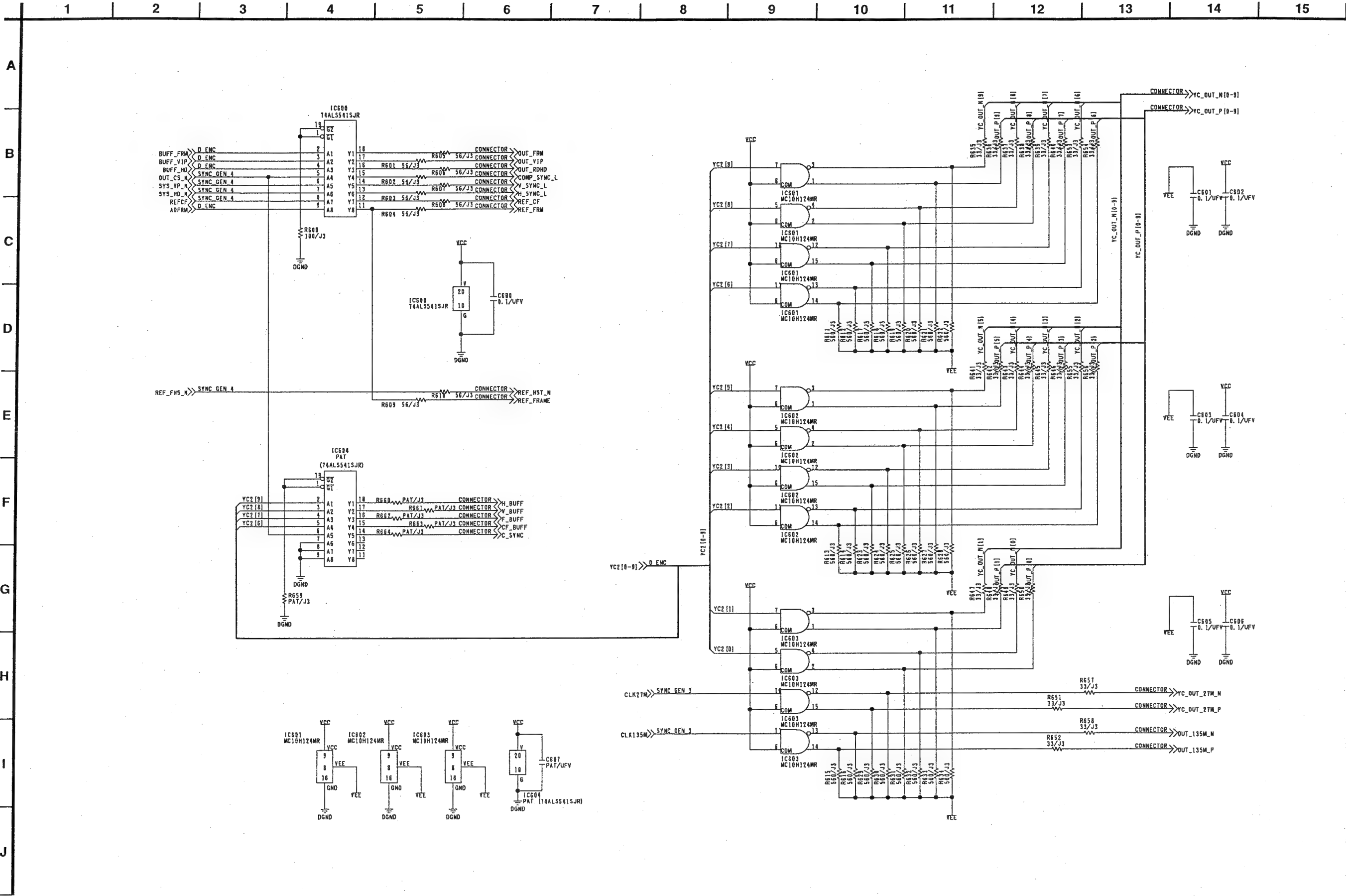




## V OUT ANALOG ENC (F4 7/16) SCHEMATIC DIAGRAM

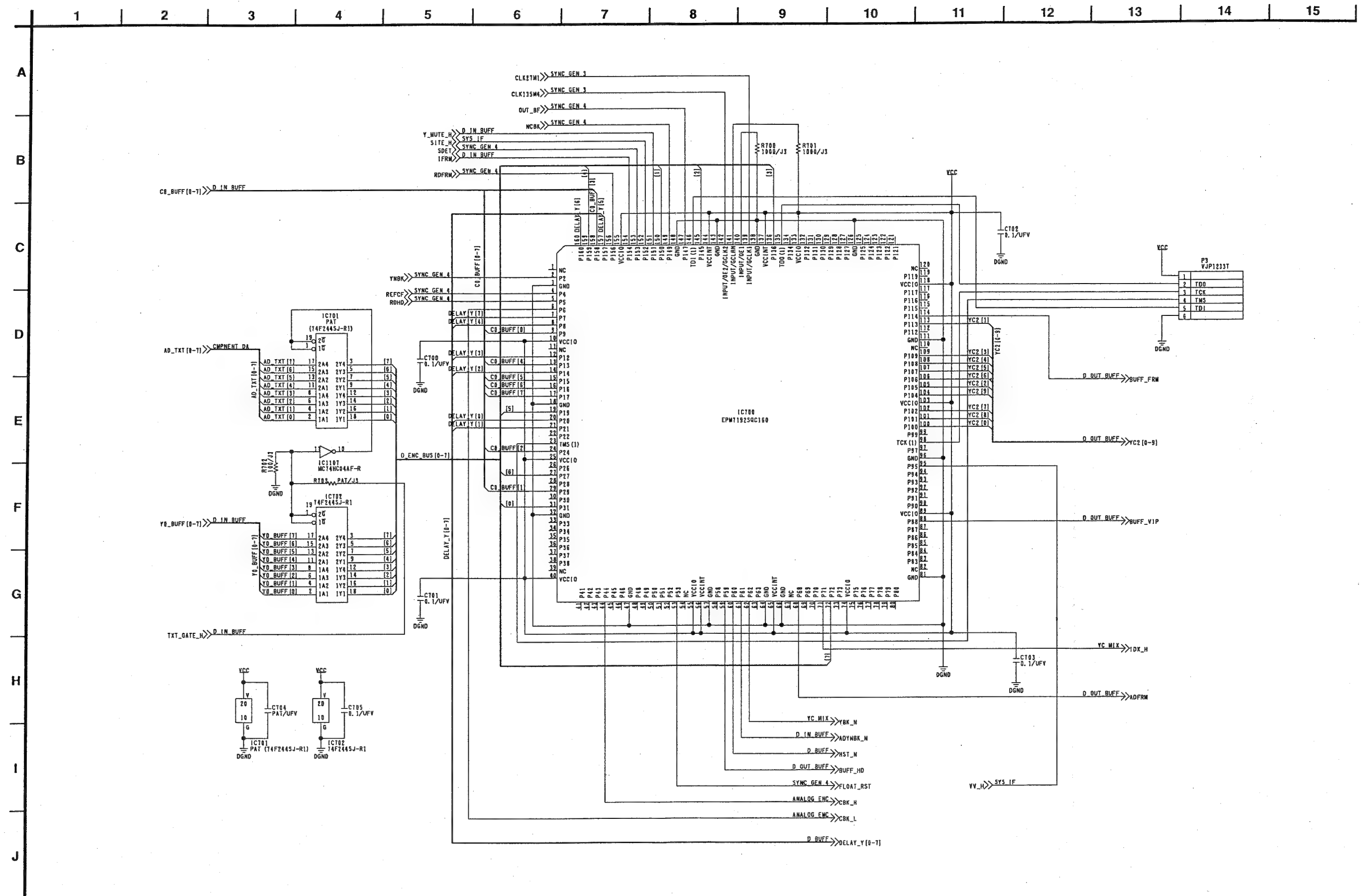


V OUT D OUT BUFF (F4 8/16) SCHEMATIC DIAGRAM

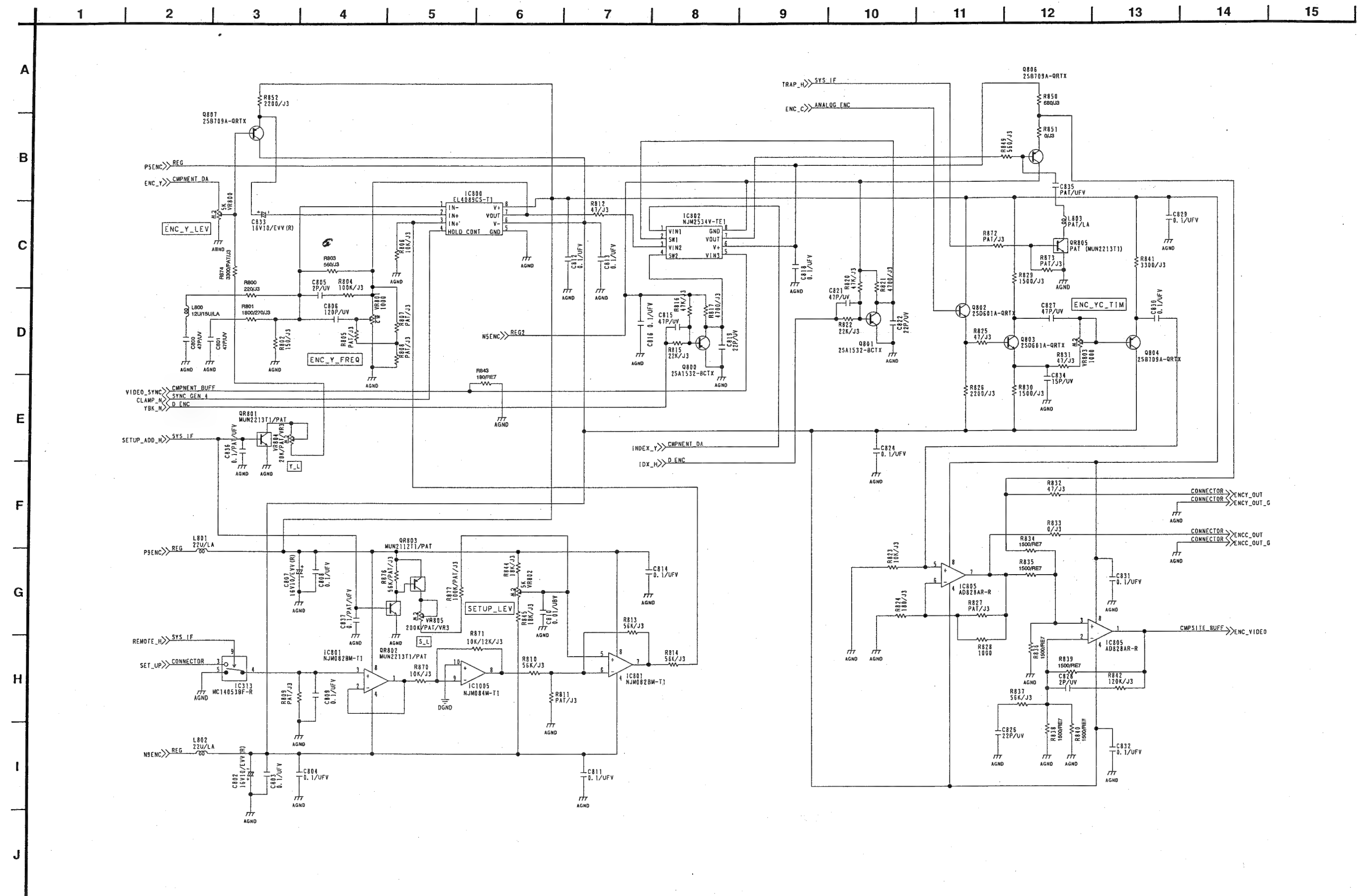




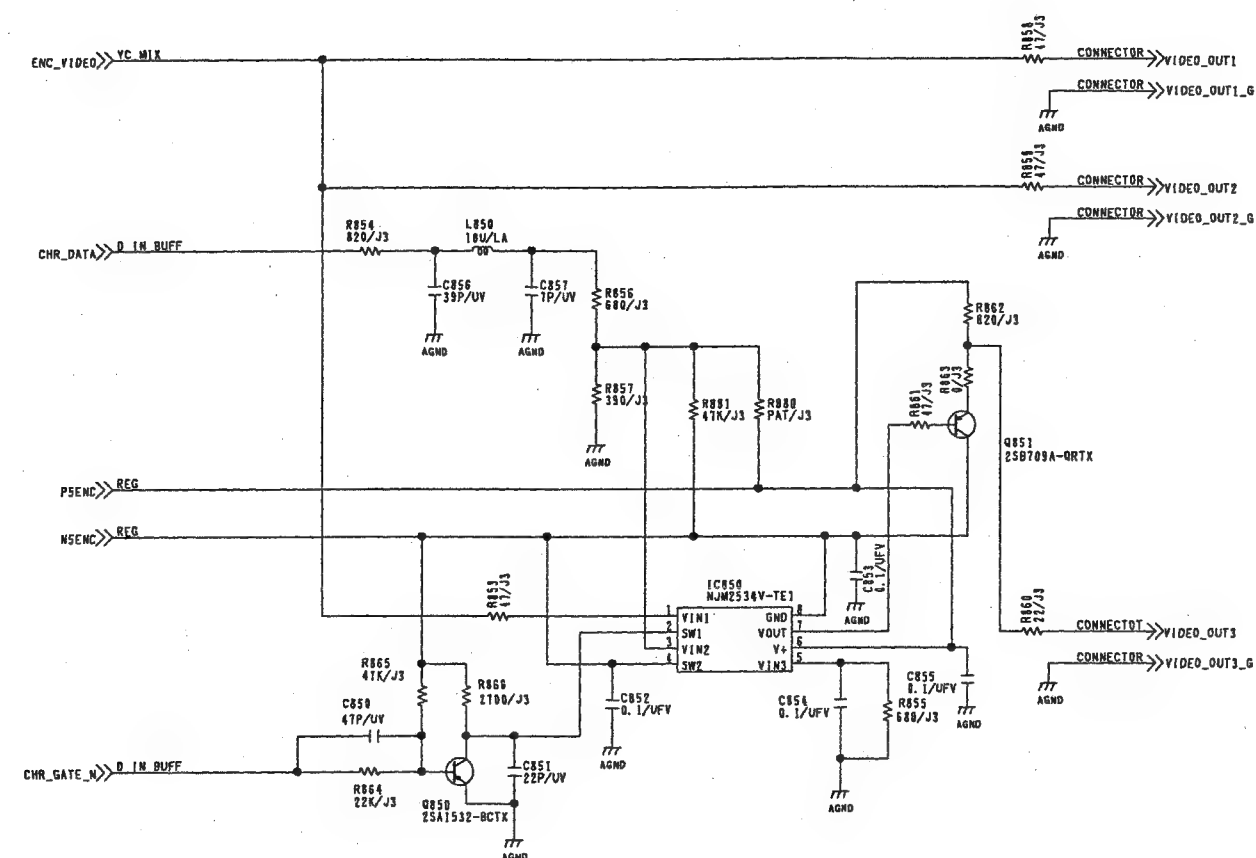
### V OUT D ENC (F4 9/16) SCHEMATIC DIAGRAM



# V OUT YC MIX (F4 10/16) SCHEMATIC DIAGRAM

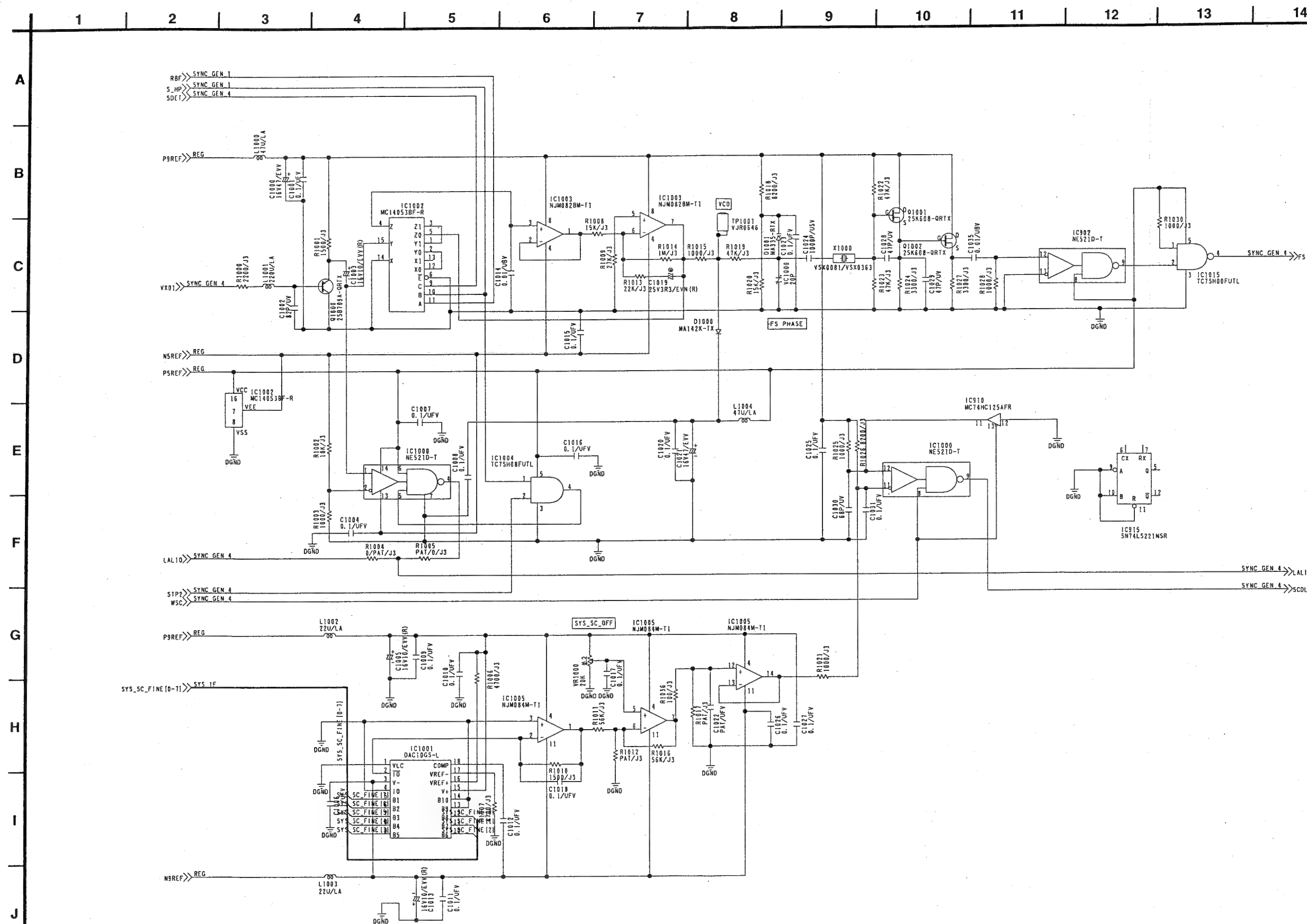


## V OUT CMPSITE BUFF (F4 11/16) SCHEMATIC DIAGRAM

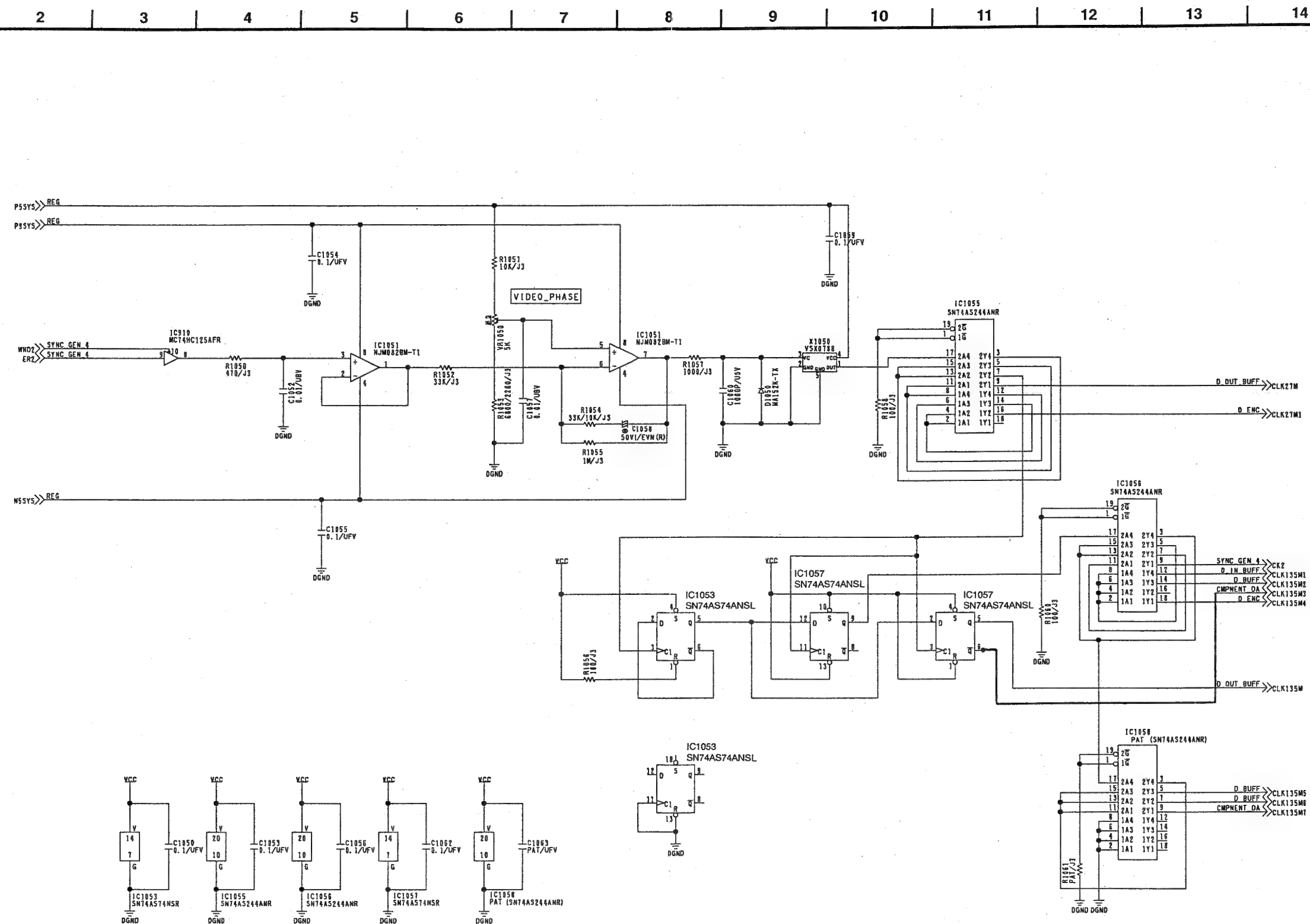




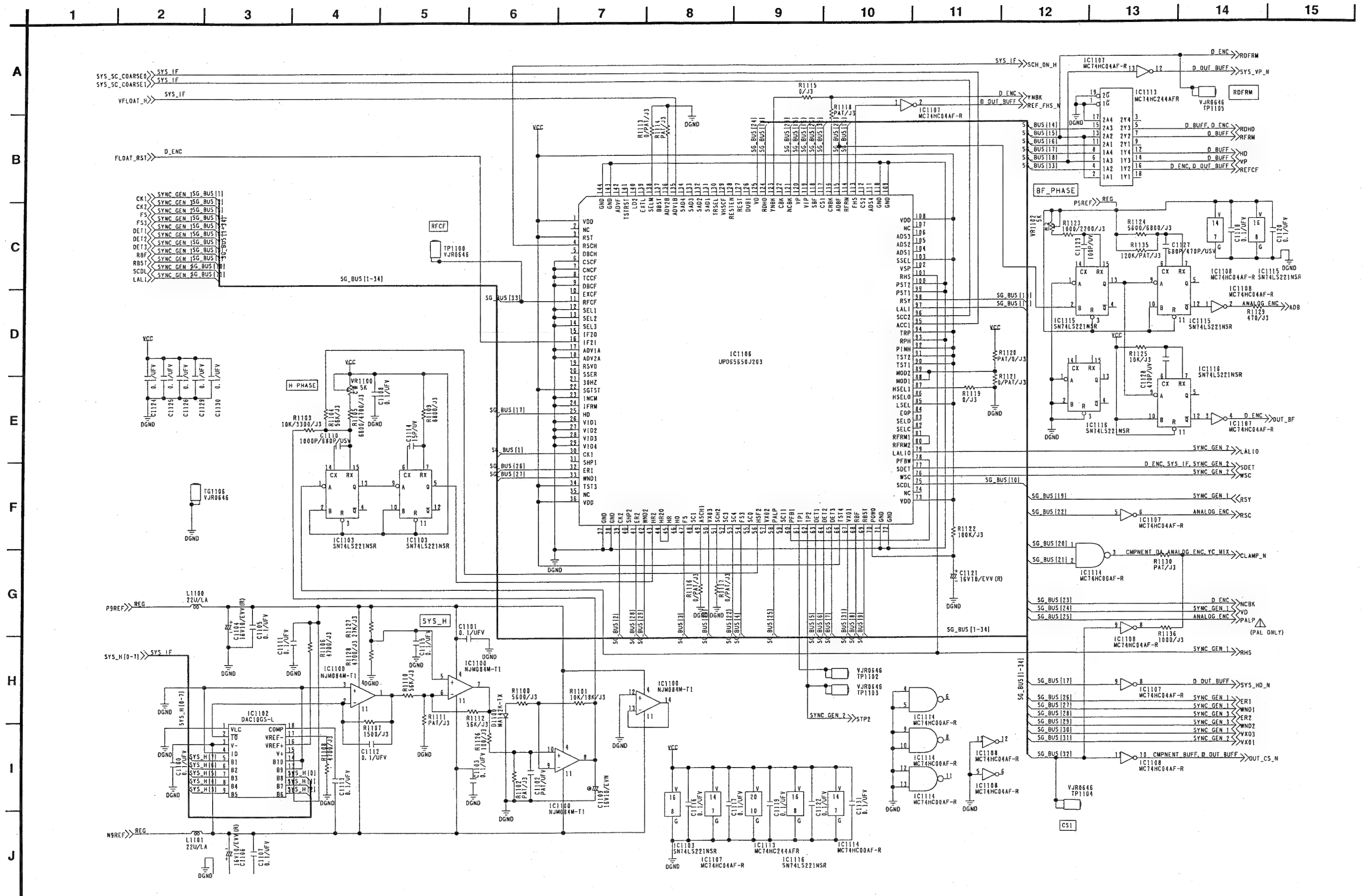
### V OUT SYNC GEN 2 (F4 13/16) SCHEMATIC DIAGRAM



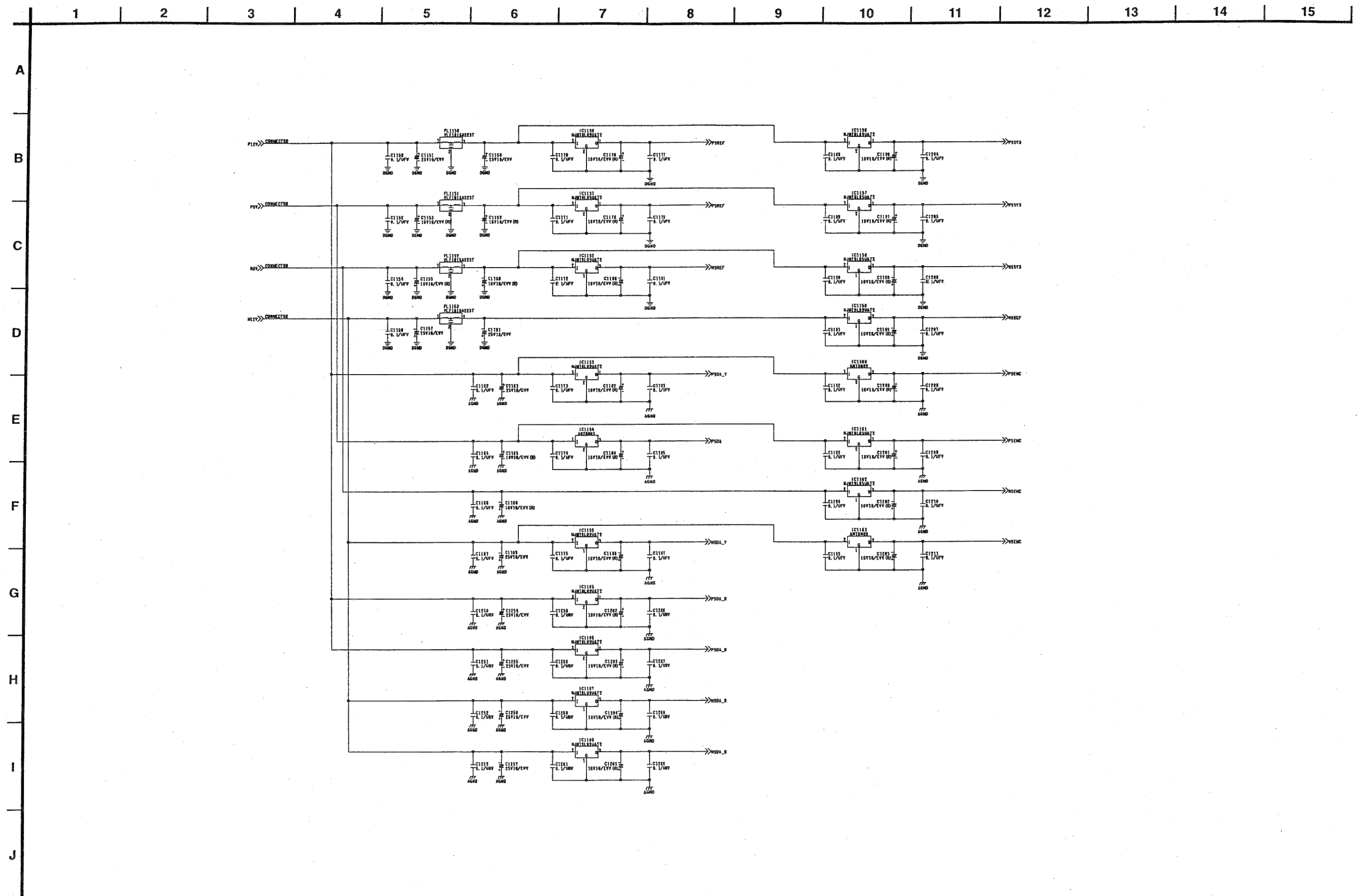
### V OUT SYNC GEN 3 (F4 14/16) SCHEMATIC DIAGRAM



### V OUT SYNC GEN 4 (F4 15/16) SCHEMATIC DIAGRAM



### V OUT REG (F4 16/16) SCHEMATIC DIAGRAM





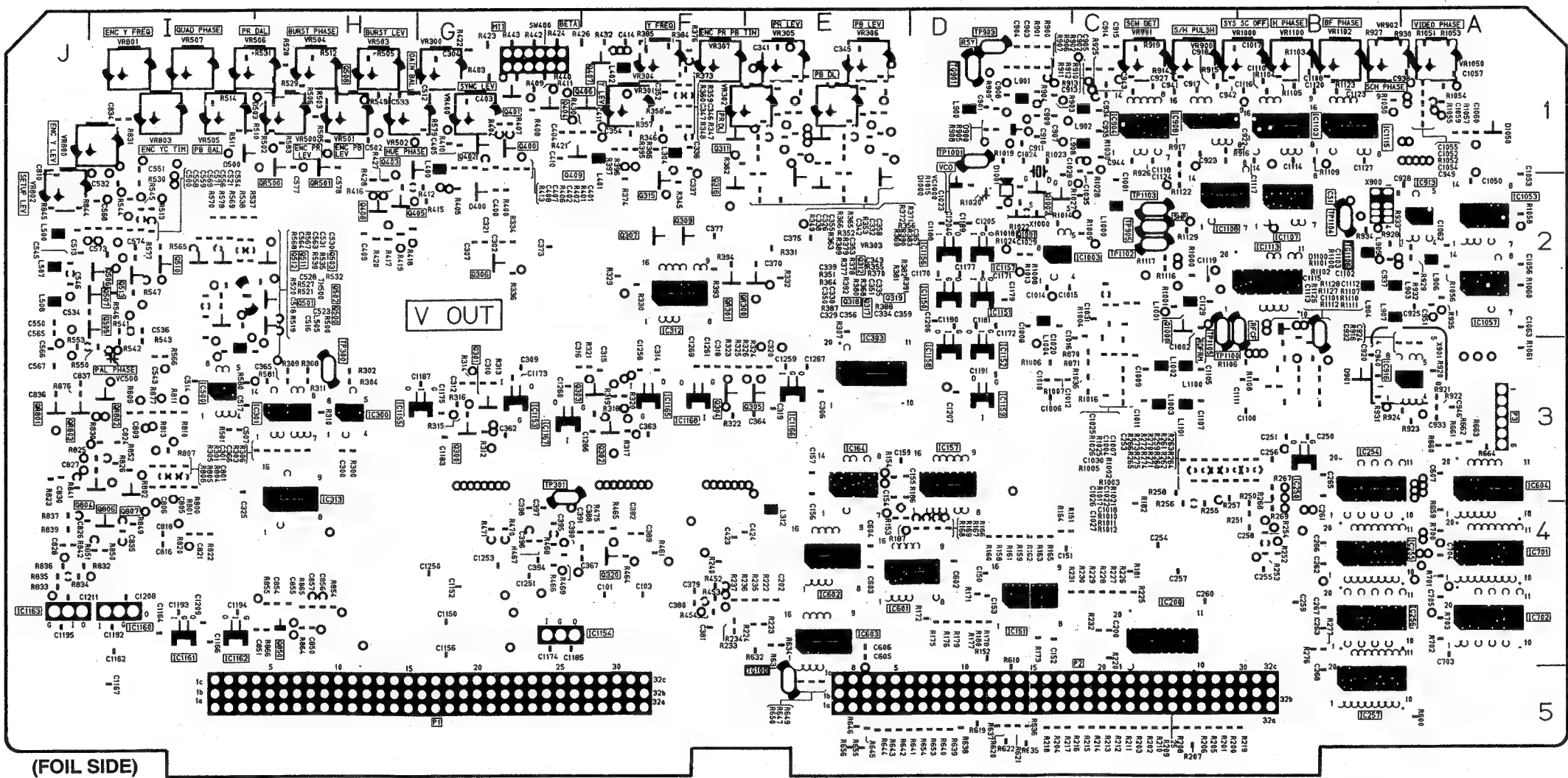
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A															
B															
C															
D															
E															
F															
G															
H															
I															
J															

Ref. No.	AJ-D640P/AJ-D650P	AJ-D640/AJ-D650	AJ-D640E/AJ-D650E	Position
C327	ECUV1H120JCV	←		C-F-1
C331	ECUV1H120JCV	←		C-E-1
C338	ECUV1H100DCV	←		F-E-1
C342	ECUV1H100DCV	←		F-E-1
C405	ECUV1H180JCV	←	ECUV1H330JCV	F-G-1
C407	ECUV1H121JCV	←	ECUV1H271JCV	F-G-1
C408	ECUV1H120JCV	←		F-G-1
C540			ECUV1E104ZFV	C-J-2
C543			ECUV1E104ZFV	F-I-3
C544			ECUV1H120JCV	C-I-3
C545	ECUV1H330JCV	←	ECUV1H270JCV	F-J-2
C546	ECUV1H271JCV	←	ECUV1H221JCV	F-J-2
C547	ECUV1H220JCV	←		C-J-2
C548	ECUV1H680JCV	←	ECUV1H270JCV	C-J-2
C549	ECUV1H070DCV	←		C-J-2
C550	ECUV1H121JCV	←	ECUV1H101JCV	F-J-2
C563			ECUV1E104ZFV	F-I-2
C564			ECUV1E104ZFV	F-I-2
C565			ECUV1H100DCV	F-J-2
C566	ECUV1H100DCV	←	ECUV1H470JCV	F-J-3
C567			ECUV1H330JCV	F-J-3
C577	ECUV1E104ZFV			F-H-1
C578	ECUV1E104ZFV			F-H-1
C836	ECUV1E104ZFV			F-J-3
C837	ECUV1E104ZFV			F-J-3
C943	ECUV1H150JCV	←		F-C-1
C944	ECUV1H150JCV	←		F-C-1
C1110	ECUV1H102JV	←	ECUV1H681JV	F-B-1
C1127	ECUV1H681JV	←	ECUV1H471JCV	F-B-1
L400	VLQ0163J470	←	VLQ0163J101	F-G-1
L507	VLQ0163J270	←	VLQ0163J150	F-J-2
L508	VLQ0163J6R8	←	VLQ0163J5R6	F-J-2
L510	VLQ0163J5R6	←	VLQ0163J6R8	C-J-3
L800	VLQ0163J120	←	VLQ0163J150	C-I-3
L902	VLQ0163J680	←	VLQ0163J390	F-C-1
Q509			XN6501-TX	C-I-3
Q511			2SC2295-BCTX	F-I-2
Q512			2SC2295-BCTX	F-I-2
Q514			2SB709A-QRTX	C-I-2
R250			ERJ3GEYJ103V	F-B-4
R251	ERJ3GEYJ103V	←		F-B-4
R263			ERJ3GEYJ103V	F-B-3
R264	ERJ3GEYJ103V	←		F-B-3
R352	ERJ3GEYJ152V	←	ERJ3GEYJ102V	F-E-1
R356	ERJ3GEYJ152V	←	ERJ3GEYJ102V	F-E-1
R506			ERJ3GEYJ470V	F-H-1
R512	ERJ3GEYJ0R00V	←		F-H-1
R526	ERJ3GEYJ394V	←	ERJ3GEYJ124V	C-I-2
R542	ERJ3GEYJ181V	←	ERJ3GEYJ100V	F-I-2
R543	ERJ3GEYJ152V	←	ERJ3GEYJ102V	F-I-2
R551			ERJ3GEYJ102V	C-I-2
R552	ERJ3GEYJ102V	←		C-I-2
R553	ERJ3GEYJ0R00V	←		F-J-3
R554			ERJ3GEYJ391V	C-I-2
R555			ERJ3GEYJ103V	C-J-2
R556			ERJ3GEYJ181V	C-I-2

Ref. No.	AJ-D640P/AJ-D650P	AJ-D640/AJ-D650	AJ-D640E/AJ-D650E	Position
R557			ERJ3GEYJ181V	C-I-2
R558			ERJ3GEYJ561V	C-I-2
R562	ERJ3GEYJ102V	←		C-I-2
R563			ERJ3GEYJ102V	C-I-2
R564			ERJ3GEYJ561V	C-I-3
R566			ERJ3GEYJ103V	F-I-3
R567			ERJ3GEYJ562V	F-I-2
R568			ERJ3GEYJ562V	F-I-2
R569			ERJ3GEYJ223V	F-I-2
R570			ERJ3GEYJ223V	F-I-2
R575			ERJ3GEYJ152V	C-I-2
R576			ERJ3GEYJ470V	C-I-2
R578			ERJ3GEYJ223V	F-I-2
R583	ERJ3GEYJ152V			F-H-1
R585	ERJ3GEYJ152V			F-H-1
R801	ERJ3GEYJ182V	←	ERJ3GEYJ271V	F-I-3
R871	ERJ3GEYJ103V	←	ERJ3GEYJ123V	F-C-3
R874	ERJ3GEYJ332V			C-J-3
R876	ERJ3GEYJ563V			F-J-3
R877	ERJ3GEYJ104V			F-I-3
R914	ERJ3GEYJ223V	←	ERJ3GEYJ333V	F-C-1
R923	ERJ3GEYJ223V	←	ERJ3GEYJ332V	F-A-3
R1004	ERJ3GEYJ0R00V	←		F-C-3
R1005			ERJ3GEYJ0R00V	F-C-3
R1053	ERJ3GEYJ682V	←	ERJ3GEYJ222V	F-A-1
R1054	ERJ3GEYJ333V	←	ERJ3GEYJ103V	F-A-1
R1101	ERJ3GEYJ103V	←	ERJ3GEYJ183V	F-B-3
R1103	ERJ3GEYJ103V	←	ERJ3GEYJ332V	F-B-1
R1105	ERJ3GEYJ682V	←	ERJ3GEYJ472V	F-B-1
R1113	ERJ3GEYJ0R00V	←		C-B-2
R1116	ERJ3GEYJ0R00V	←		F-C-2
R1117	ERJ3GEYJ0R00V	←		F-C-2
R1120			ERJ3GEYJ0R00V	C-B-1
R1121	ERJ3GEYJ0R00V	←		C-B-1
R1123	ERJ3GEYJ102V	←	ERJ3GEYJ222V	F-B-1
R1124	ERJ3GEYJ562V	←	ERJ3GEYJ682V	C-B-1
R1135	ERJ3GEYJ124V	←		C-B-1
X900	VSX0338	←	VSX0270	C-A-2
X1000	VSX0081	←	VSX0363	C-D-2
QR500	MUN2213T1			F-H-2
QR501	MUN2213T1			F-H-2
QR801	MUN2213T1			F-J-3
QR802	MUN2213T1			F-I-2
QR803	MUN2212T1			F-J-2
SW400	VSS0372	←		C-G-1
VC500			ECV1ZW30X53T	C-I-3
VR504			EVMEGSA00B13	C-H-1
VR508	VRV0113B203T			C-H-1
VR509	VRV0113B203T			C-H-1
VR804	VRV0113B203T			C-J-3
VR805	VRV0113B204T			C-I-3
VR900	EVMEGSA00B54	←	EVMEGSA00B24	C-C-1
IC700	VSI2499B	←	VSI2500B	C-A-4

Position.....C: Component Side  
F: Foil Side

F4 V OUT P.C. BOARD (VEP83352C)



V OUT (FOIL SIDE)			
Transistors		Test Points	
Q300	G-3	IC1003	D-2
Q301	G-3	IC1053	A-2
Q302	F-3	IC1057	A-2
Q303	F-3	IC1103	B-1
Q304	F-3	IC1107	B-2
Q305	E-3	IC1108	C-2
Q306	G-2	IC1113	B-2
Q307	F-2	IC1115	B-1
Q309	F-2	IC1150	D-2
Q311	F-1	IC1151	D-2
Q312	E-1	IC1152	D-3
Q315	F-2	IC1153	G-3
Q316	F-2	IC1154	G-4
Q317	E-2	IC1155	H-3
Q318	E-2	IC1156	D-2
Q319	E-2	IC1157	D-2
Q320	F-4	IC1158	D-3
Q400	G-1	IC1159	D-3
Q401	G-1	IC1160	I-4
Q402	G-1	IC1161	I-4
Q403	H-1	IC1162	I-4
Q404	G-1	IC1163	J-4
Q405	G-2	IC1165	F-3
Q406	F-1	IC1166	E-3
Q407	F-1	IC1167	G-3
Q408	H-2	IC1168	F-3
Q409	G-1	Adjustments	
Q500	H-2	VC500	I-3
Q501	I-2	VC1000	D-2
Q502	H-2	VR300	G-1
Q503	H-2	VR301	F-1
Q506	I-2	VR302	F-1
Q506	I-2	VR304	F-1
Q507	I-2	VR305	E-1
Q508	H-1	VR306	E-1
Q510	I-2	VR307	F-1
Q511	I-2	VR400	G-1
Q512	I-2	VR500	H-1
Q513	I-2	VR501	H-1
Q804	I-3	VR502	H-1
Q806	I-4	VR503	H-1
Q807	I-3	VR504	H-1
Q850	H-4	VR505	I-1
Q1000	C-2	VR506	H-1
Q1001	D-2	VR507	I-1
Q1002	D-2	VR800	J-1
Transistor & Resistors		Connectors	
QR300	E-2	P1	G-5
QR301	F-2	P2	C-5
QR500	H-2	P3	A-3
QR501	H-1	ADDRESS INFORMATION	
QR801	J-1		
QR802	I-3		
QR803	J-3		
Integrated Circuits			
IC151	D-4		
IC157	D-3		
IC164	E-3		
IC200	C-4		
IC250	B-3		
IC254	B-3		
IC255	B-4		
IC256	B-4		
IC257	B-5		
IC300	H-3		
IC301	H-3		
IC312	F-2		
IC313	H-3		
IC500	I-3		
IC601	E-4		
IC602	E-4		
IC603	E-4		
IC604	A-3		
IC701	A-4		
IC702	A-4		
IC904	C-1		
IC908	C-1		
IC913	A-2		
IC916	A-3		

ADDRESS INFORMATION

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Countermeasure for Electric Power Capability of 3 Terminals  
Regulator IC under High Temperature (60°C)**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	30	VSD9606M502A/B	A7TRB0001
AJ-D650E/EN	3	VSD9612MJ01A/B	A7TRA0001
AJ-D640E/EN	3	VSD9612MJ01A/B	A7TRA0001

Board : REC PB (F5:VEP83223B) - AJ-D750  
REC PB (F5:VEP83353B) - AJ-D640/D650

**Symptom :** Electric power capability of 3 terminals regulator IC may be over under high temperature environment (60°C).

**Remedy :** To prevent it, the input voltage is decreased. The following modification is performed.

**\* P.C.Board version is VEP83223B (AJ-D750)**

- 1). Cut the foil between terminal I of IC256 and terminal O of D112 on the foil side as shown in figures 1 and 2.
- 2). Add a diode D113 (11ES1) between terminal I of IC254 (anode side) and terminal I of IC256 (cathode side) on the foil side as shown in figures 1 and 3.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
D113	---	11ES1	DIODE	0→1	

**\* P.C.Board version is VEP83353B (AJ-D640/D650)**

- 1). Cut the foil between terminal I of IC3206 and terminal O of D3112 on the foil side as shown in figures 3 and 4.
- 2). Add a diode D3113 (11ES1) between terminal I of IC3204 (anode side) and terminal I of IC3206 (cathode side) on the foil side as shown in figures 2 and 3.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
D3113	---	11ES1	DIODE	0→1	

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REC PB (F5 22/23) Schematic Diagram

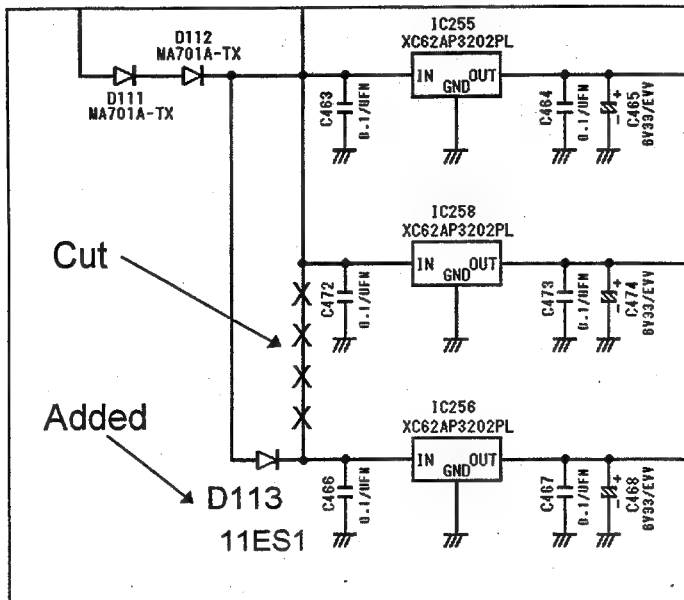


Fig. 1 Page 2-107 (E-3) - AJ-D750

REC PB (F5 22/23) Schematic Diagram

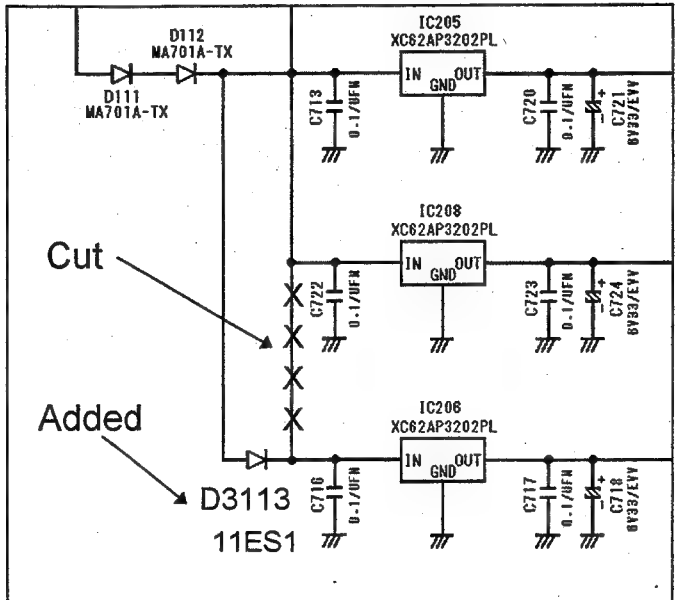


Fig. 2 Page 2-82 (B-4) - AJ-D640/D650

F5 REC PB P.C.Board (VEP83223B / VEP83353B)

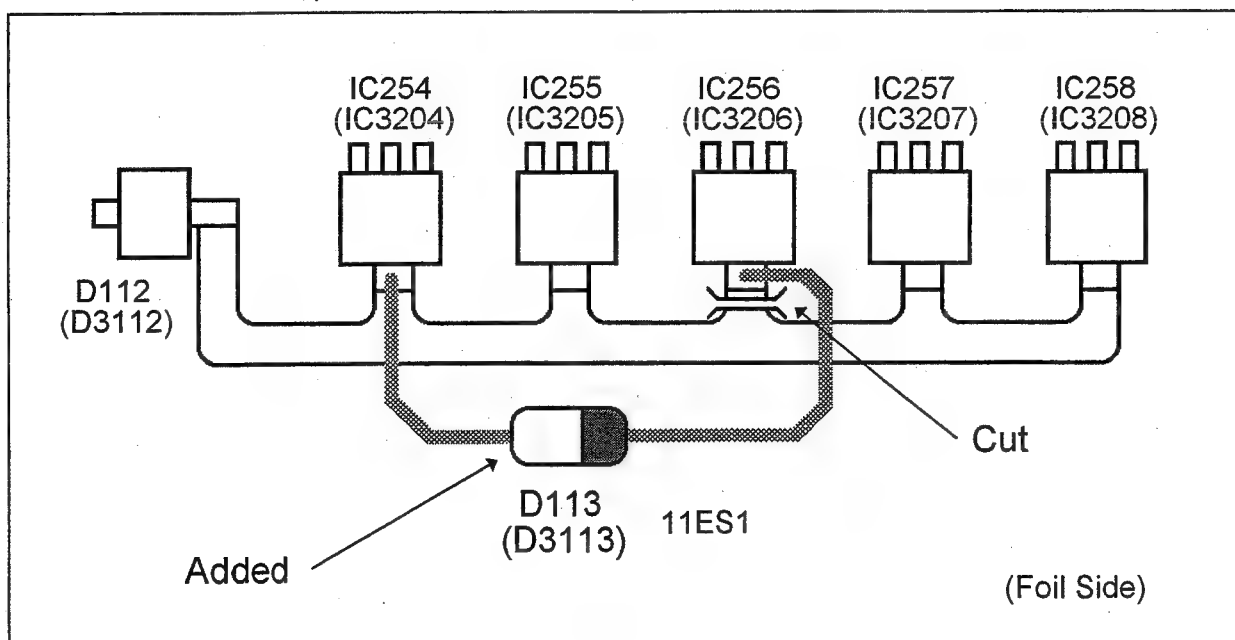


Fig. 3 Page 3-7 (E-4) - AJ-D750  
Page 3-6 (E-4) - AJ-D640/D650

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Improvement of Data Communication Error between AV Micon  
and SBC Micon under High Temperature (60°C)**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	33	VSD9606M502A/B	B7TRB0001
AJ-D650E/EN	4	VSD9612MJ01A/B	B7TRA0001
AJ-D640E/EN	4	VSD9612MJ01A/B	B7TRA0001

Board : System Control (F2:VEP86146B) - AJ-D750  
System Control (F2:VEP86146E) - AJ-D650  
System Control (F2:VEP86146F) - AJ-D640

**Symptom :** Data communication error between AV microcomputer and SBC microcomputer may occur under high temperature environment (60°C).

**Cause :** Data input/output timing is delayed due to the temperature characteristics of Transistor-Resistor. It results in data communication error.

**Remedy :** To prevent it, the following transistor-resistors QR701, QR702 and QR703 are changed from UN2214 to UN221L on the foil side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
QR701 ~ 3	UN2214	UN221L	TRANSISTOR-RESISTOR	3	

### AJ-D750

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
QR701	2-40	B-5 (10/14)	3-4	H-4 (F)
QR702	2-40	A-10 (10/14)	3-4	H-3 (F)
QR703	2-40	A-11 (10/14)	3-4	H-3 (F)

### AJ-D640/D650

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
QR701	2-40	F-3 (10/14)	3-4	H-4 (F)
QR702	2-40	F-6 (10/14)	3-4	H-3 (F)
QR703	2-40	F-7 (10/14)	3-4	H-3 (F)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Common Use of ICs (CPU)

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	34	VSD9606M502A/B	B7TRB0001
AJ-D650E/EN	5	VSD9612MJ01A/B	B7TRA0001
AJ-D640E/EN	5	VSD9612MJ01A/B	B7TRA0001

Board : System Control (F2:VEP86146B) - AJ-D750  
 System Control (F2:VEP86146E) - AJ-D650  
 System Control (F2:VEP86146F) - AJ-D640  
 Front CPU (VEP86147A) - AJ-D750  
 Front CPU (VEP86256A) - AJ-D640/D650

#### Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☐ The following part(s) has(have) been changed for productivity improvement.
- ☒ The following part(s) has(have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

#### F2 System Control Board (VEP86146B / AJ-D750)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC500	HD64180ZRP8	HD64180ZRP8 or HD64180ZRP10	IC	1	

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
IC500	2-36	B~F-5 (6/14)	3-3	F-2 (C)

#### F2 System Control Board (VEP86146E / AJ-D650, VEP86146F / AJ-D640)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC500	HD64180ZRP8	HD64180ZRP8 or HD64180ZRP10	IC	1	

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
IC500	2-36	E~C-3 (6/14)	3-4	F-2 (C)

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Front CPU (VEP86147A / AJ-D750)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC1	HD64180ZRP8	HD64180ZRP8 or HD64180ZRP10	IC	1	

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
IC1	2-196	C~G-4 (1/4)	3-21	E-2 (C)

Front CPU (VEP86256A / AJ-D640/D650)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC1	HD64180ZRP8	HD64180ZRP8 or HD64180ZRP10	IC	1	

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
IC1	2-154	E~C-3 (1/3)	3-12	K-3 (C)



# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Improvement of Clamp Pulse of Color Signal**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	35	VSD9606M502A/B	B7TRB0001
AJ-D650E/EN	6	VSD9612MJ01A/B	B7TRA0001
AJ-D640E/EN	6	VSD9612MJ01A/B	B7TRA0001

Board : V IN (F6:VEP83341A) - AJ-D750  
 V IN (F6:VEP83355B) - AJ-D640/D650

Symptom : Clamp pulse of the color signal is not good.

Remedy : To improve the clamp pulse of color signal, the following modification is performed.

- 1). Change transistors Q303, Q656, Q706 and Q756 from 2SK374 to 2SK198 on the foil side.
- 2). Change resistors R713 and R763 from 270K $\Omega$  to 220K $\Omega$  on the foil side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Q303	2SK374	2SK198	TRANSISTOR	1	
Q656	2SK374	2SK198	TRANSISTOR	1	
Q706	2SK374	2SK198	TRANSISTOR	1	
Q756	2SK374	2SK198	TRANSISTOR	1	
R713	ERJ6GEYJ274	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R763	ERJ6GEYJ274	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	

## AJ-D750

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
Q303	2-116	F-6 (7/18)	3-8	I-3 (F)
Q656	2-123	F-7 (14/18)	3-8	E-3 (F)
Q706	2-124	F-7 (15/18)	3-8	C-2 (F)
Q756	2-125	F-7 (16/18)	3-8	C-1 (F)
R713	2-124	G-5 (15/18)	3-8	C-2 (F)
R763	2-125	G-5 (16/18)	3-8	C-1 (F)

## AJ-D640/D650

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
Q303	2-90	C-5 (7/18)	3-7	I-3 (F)
Q656	2-97	B-6 (14/18)	3-7	E-3 (F)
Q706	2-98	B-6 (15/18)	3-7	C-2 (F)
Q756	2-99	B-6 (16/18)	3-7	C-1 (F)
R713	2-98	B-4 (15/18)	3-7	C-2 (F)
R763	2-99	B-4 (16/18)	3-7	C-1 (F)

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of LTC Output Waveform

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	36	VSD9606M502A/B	B7TRB0001
AJ-D650E/EN	7	VSD9612MJ01A/B	B7TRA0001
AJ-D640E/EN	7	VSD9612MJ01A/B	B7TRA0001

Board : System Control (F2:VEP86146B) - AJ-D750  
 System Control (F2:VEP86146E) - AJ-D650  
 System Control (F2:VEP86146F) - AJ-D640

Symptom : LTC Output waveform may not meet the specification. (SMPTE)

Remedy : To improve the LTC output waveform, the following modification is performed.

- 1). Change capacitor C771 from 50V/2200pF to 50V/820pF on the component side.
- 2). Change resistor R790 from 22K $\Omega$  to 12K $\Omega$  on the foil side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C771	ECUM1H222KBN	ECUM1H821JCN	C. CAPACITOR CH 50V 820P	1	
R790	VRE0034E223	VRE0034E123	M. RESISTOR CH 1/10W 12K	1	

#### AJ-D750

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
C771	2-41	D-13 (11/14)	3-4	I-4 (C)
R790	2-41	D-13 (11/14)	3-4	I-4 (F)

#### AJ-D640/D650

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
C771	2-41	D-8 (11/14)	3-4	I-4 (C)
R790	2-41	D-8 (11/14)	3-4	I-4 (F)

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7726  
131151

Order No. VSD9704SA646

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Introduction of Emergency Eject Function

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	46	VSD9606M502A	H6TRA0001
AJ-D650E	10	VSD9612MJ01A	K6TRA0001
AJ-D640E	10	VSD9612MJ01A	K6TRA0001

#### Cassette Compartment Assembly

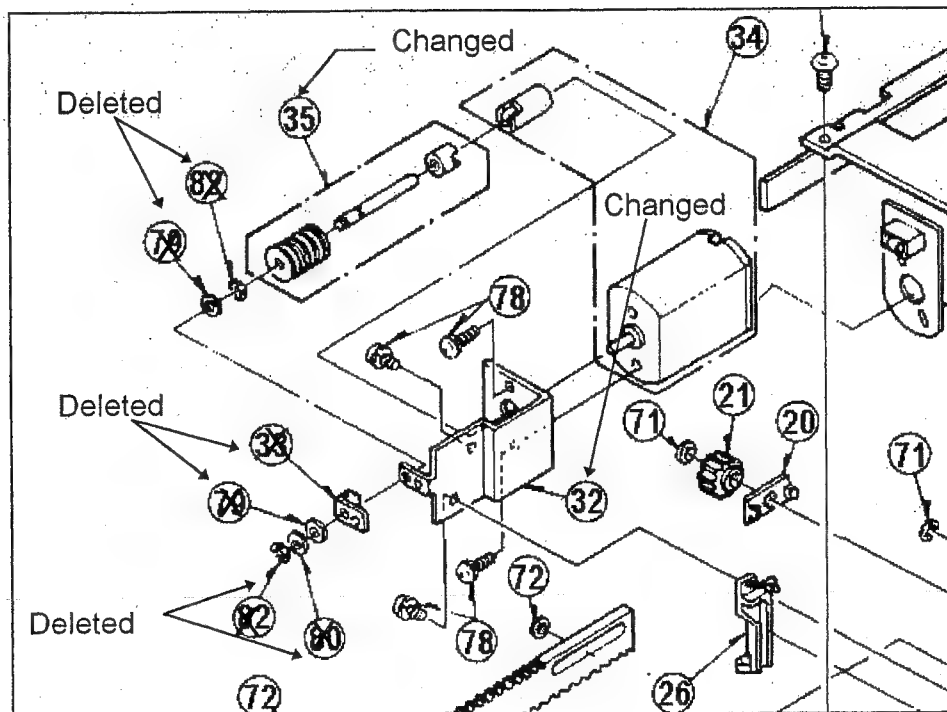
To improve serviceability, Emergency Eject function is introduced as follows.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
1	VXA5755	VXA5850	CASSETTE COMPARTMENT U	1	
32	VMA9421	VXA5848	MOTOR ANGLE	.1	
33	VMD2535	---	THRUST HOLDER	1→0	
33	---	VXP1797	WORM SHAFT U	0→1	
35	VXP1687	---	WORM SHAFT U	1→0	
35	---	VMA9673	EMERGENCY ANGLE	0→1	
66	---	VDG1246	EMERGENCY GEAR	0→1	
67	---	VMB3109	EMERGENCY SPRING	0→1	
77	---	XQN2+A3	SCREW	0→1	
79	XWGV2D5G	---	WASHER	2→0	
80	XWGV2Y4G	---	WASHER	1→0	
82	XUC2FP	---	E-RING	2→0	

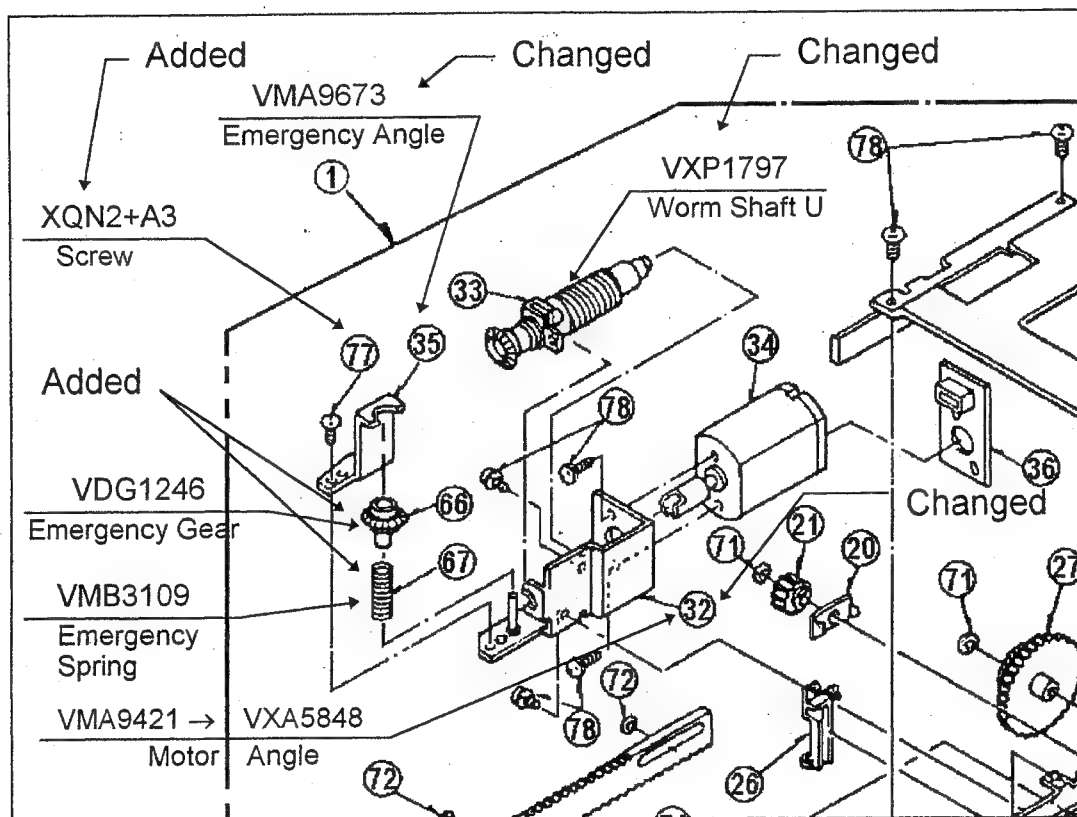
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↓ Changed



After the introduction of Emergency Eject Function, tape can remove manually as follows.

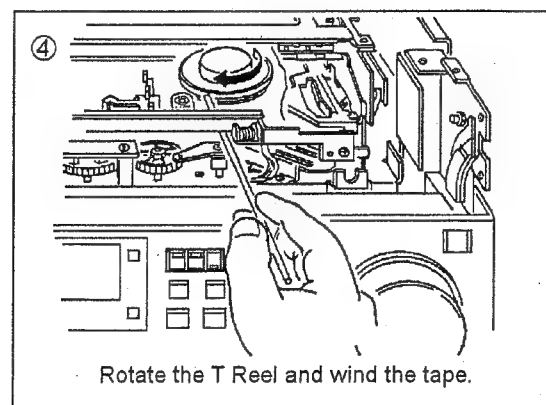
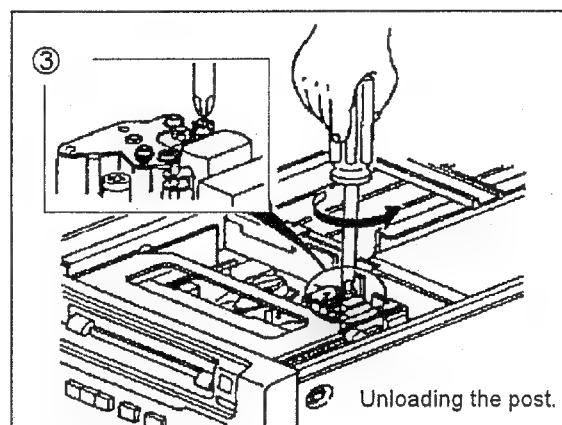
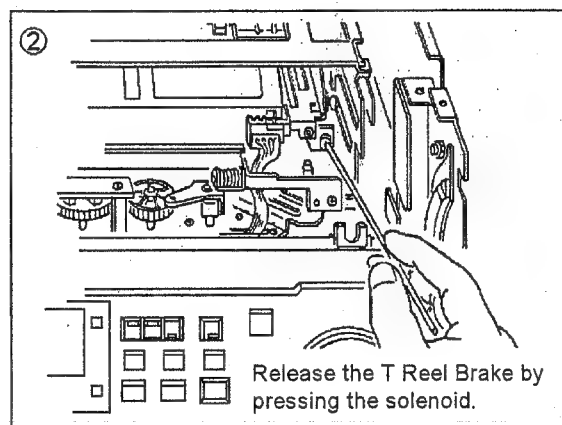
## Manual Tape Eject

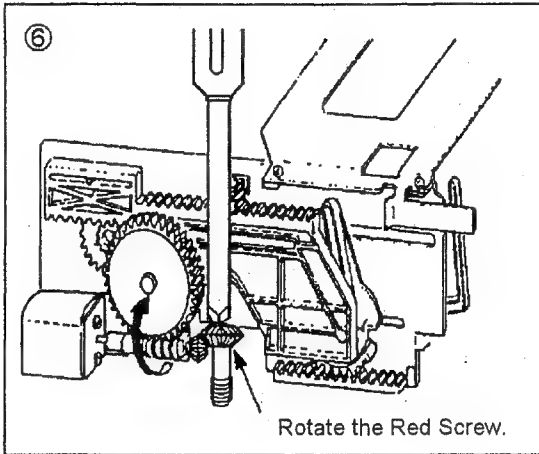
When a tape can not be ejected because of power failure or mechanical tape damage, remove the tape manually as follows.

1. Turn the power OFF and remove the Top panel and Front Upper Panel.
2. Release the Reel Brake by pressing the iron core of the T Reel Brake Solenoid. This is done by a thin stick from the VTR front as shown in figure 1.
3. Rotate the Red Plastic Screw by a Phillips - Head Screwdriver to counterclockwise (CCW) keep pushing the screw. It needs to rotate about 30 times rotation until starting to move as shown in figure 2.
4. When the post is unloaded, the tape loosens, so the Take-up Reel must be wound the tape to protect the tape looseness.

The tape wind method is as follows ; inserting a wood stick (non magnetized) between the cassette and mechanism chassis from the front and rotate the T Reel to the tape wind direction as shown in figure 3.

5. Repeat item 3 and 4 until the tape is wound completely inside of the cassette.
6. When the tape is completely inside of the cassette, rotate the Red Plastic Gear of the Cassette Down Motor and remove the cassette. Take care so that the cassette cover does not bite the tape when the cover is closed.





17726  
18175

Order No. VSD9704SA650

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Countermeasure for M Cassette Oblique Insertion

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	50	VSD9606M502A	H6TRA0001
AJ-D650E	13	VSD9612MJ01A	K6TRA0001
AJ-D640E	13	VSD9612MJ01A	K6TRA0001

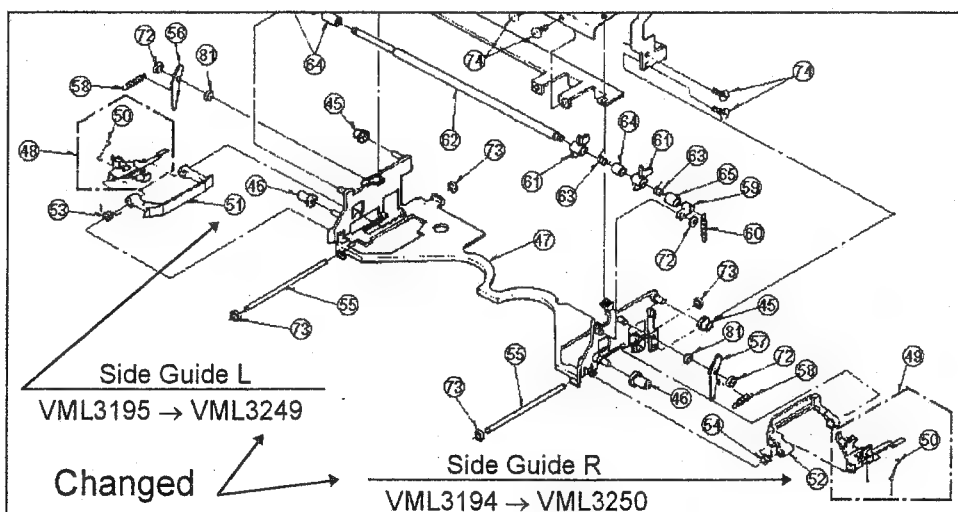
#### Cassette Compartment Assembly

Symptom : M Cassette Lid may not be released when the M cassette is inserted obliquely.

Cause : As there is a little margin between the M cassette tape and Side Guide (R) and (L), M cassette may be inserted obliquely. And then, M Cassette Lid cannot be released.

Remedy : To prevent it, the Side Guide (L) and (R) are changed as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
51	VML3195	VML3249	SIDE GUIDE L	1	
52	VML3194	VML3250	SIDE GUIDE R	1	



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18115

Order No. VSD9704SA652

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Addition of Front Guide Cover

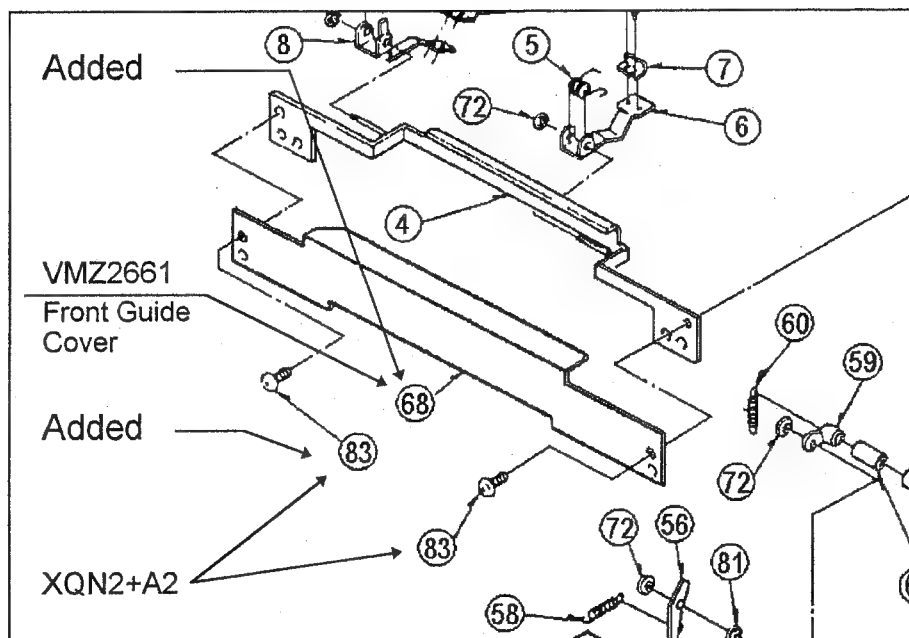
Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	52	VSD9606M502A	I6TRA0001
AJ-D650E	14	VSD9612MJ01A	K6TRA0001
AJ-D640E	14	VSD9612MJ01A	K6TRA0001

#### Cassette Compartment Assembly

To prevent the dust from coming into the Mechanical Chassis Unit from outside, the Front Guide Cover is added to the Front Guide Panel as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
68	---	VMZ2661	FRONT GUIDE COVER	0→1	
83	---	XQN2+A2	SCREW	0→2	



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V181151  
V18116

Order No. VSD9704SC602

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of TC Output Level

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	16	VSD9612MJ01A/B	K6TRA0001
AJ-D640E	16	VSD9612MJ01A/B	K6TRA0001

Board : System Control (F2:VEP86146E) - AJ-D650  
System Control (F2:VEP86146F) - AJ-D640

Symptom : TC output level is not stable.

Cause : There is a little margin to the input impedance of the Connection.

Remedy : To improve the TC output level, a jumper wire is connected between TP702 and ground on the component side as shown in figures 1 and 2.

System Control (F2 11/14) Schematic Diagram

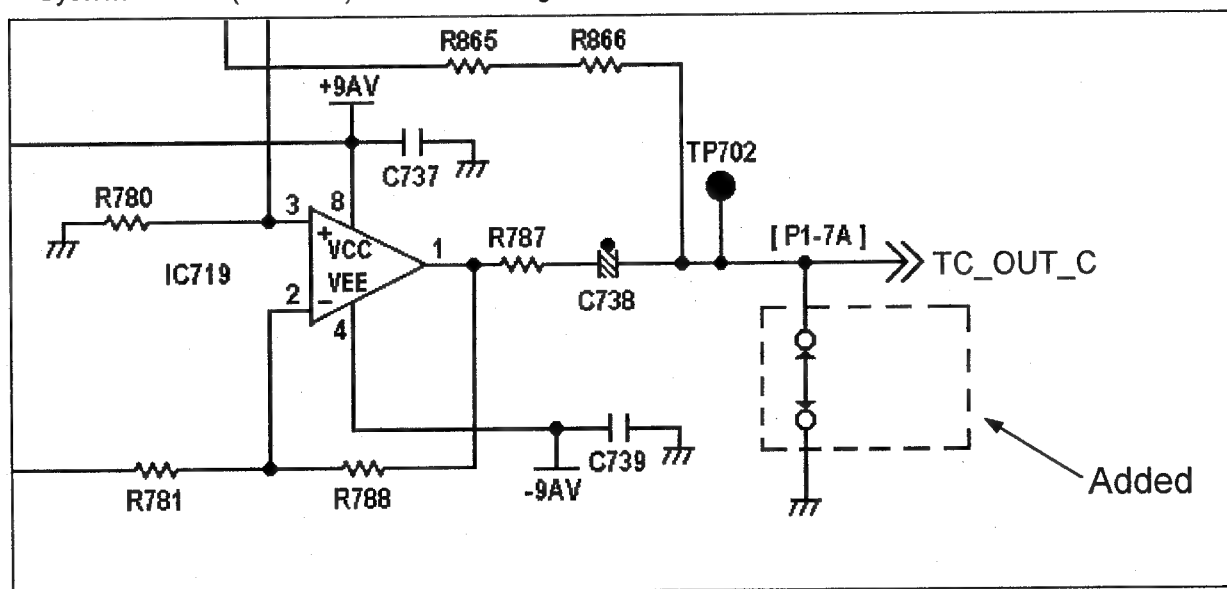


Fig. 1 Page 2-41 (D-9~10)

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System Control P.C. Board (VEP86146E/F)

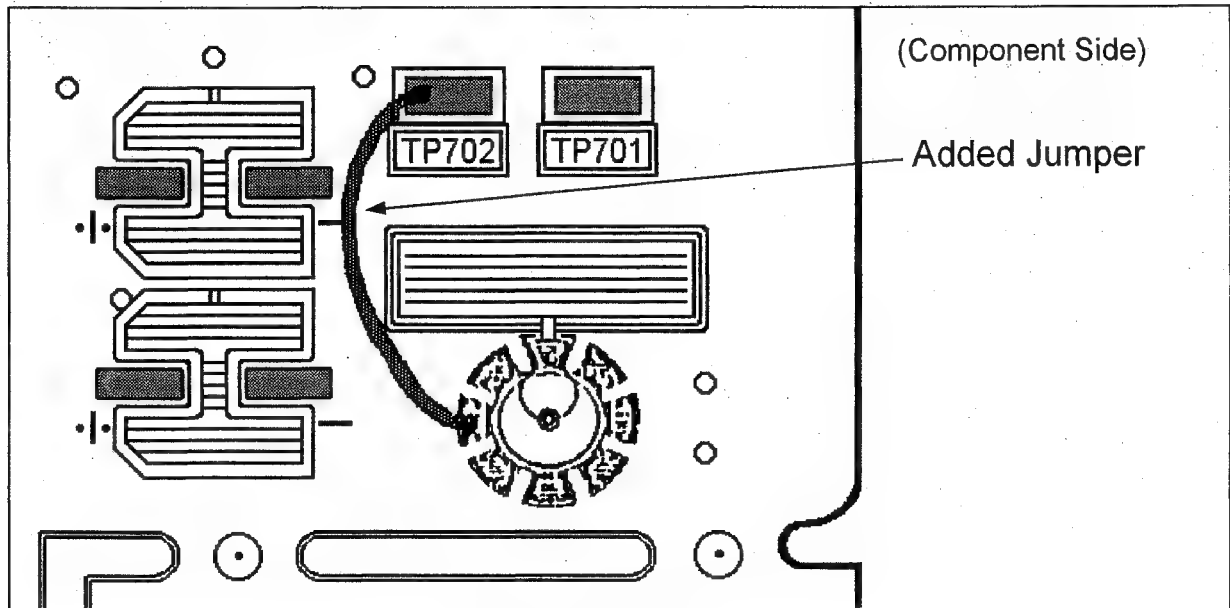


Fig. 2 Page 3-4 (J-5)

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Reduction of Noise on Headphone Output

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	17	VSD9612MJ01A/B	K6TRA0001
AJ-D640E	17	VSD9612MJ01A/B	K6TRA0001

Board : ADDA CUE (F8:VEP84293B)

Symptom : Noise may appear on the Headphone output when the mute circuit of the Headphone output is turned ON/OFF.

Remedy : To reduce the noise, the following modification is performed.

- 1). Delete transistors Q4345 and Q4346 and resistors R4354 and R4356 from the foil side.
- 2). Cut the foil from D342 on the component side as shown in figure 1 and 2.
- 3). Connect a jumper wire between D343 and pin #28B of P4002 on the foil side as shown in figures 1 and 3.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Q4345, 46	2SD1328	---	TRANSISTOR	2→0	
R4354	ERJ6GEYJ103	---	M. RESISTOR CH 1/10W 10K	1→0	
R4356	ERJ6GEYJ103	---	M. RESISTOR CH 1/10W 10K	1→0	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
Q4345	2-121	C-5 (7/12)	3-9	E-2 (F)
Q4346	2-121	B-5 (7/12)	3-9	E-2 (F)
R4354	2-121	C-5 (7/12)	3-9	D-2 (F)
R4356	2-121	B-5 (7/12)	3-9	D-2 (F)

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ADDA CUE (F8 7/12) Schematic Diagram

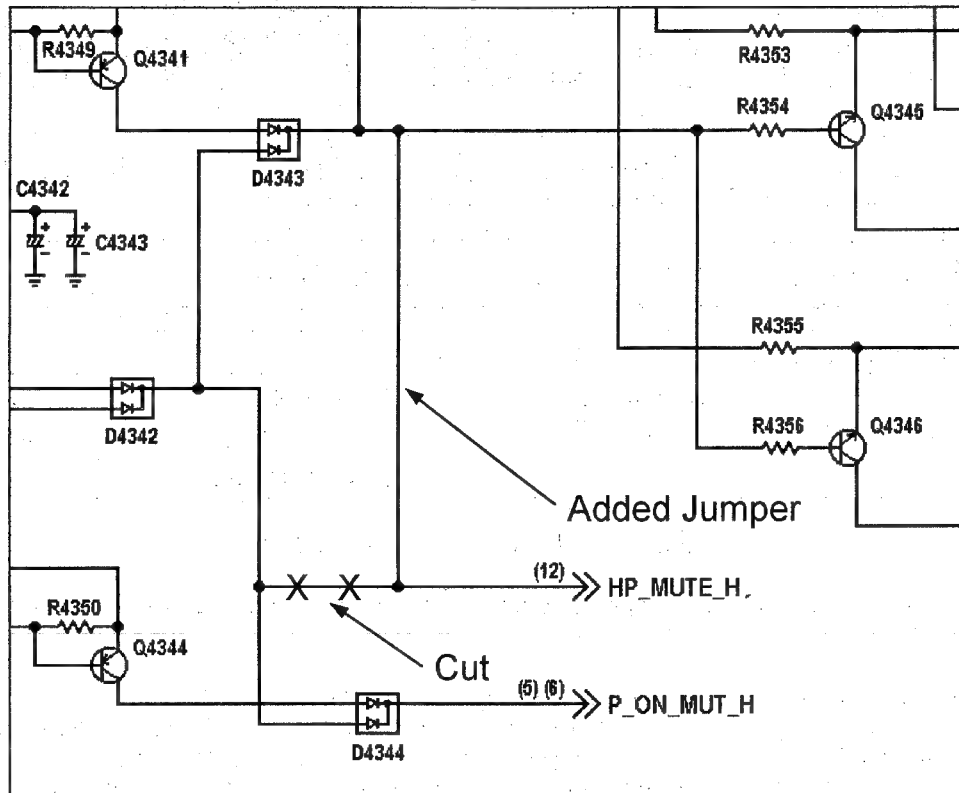


Fig. 1 Page 2-121 (B~C-4-5)

F8 ADDA CUE P.C. Board (VEP84293B)

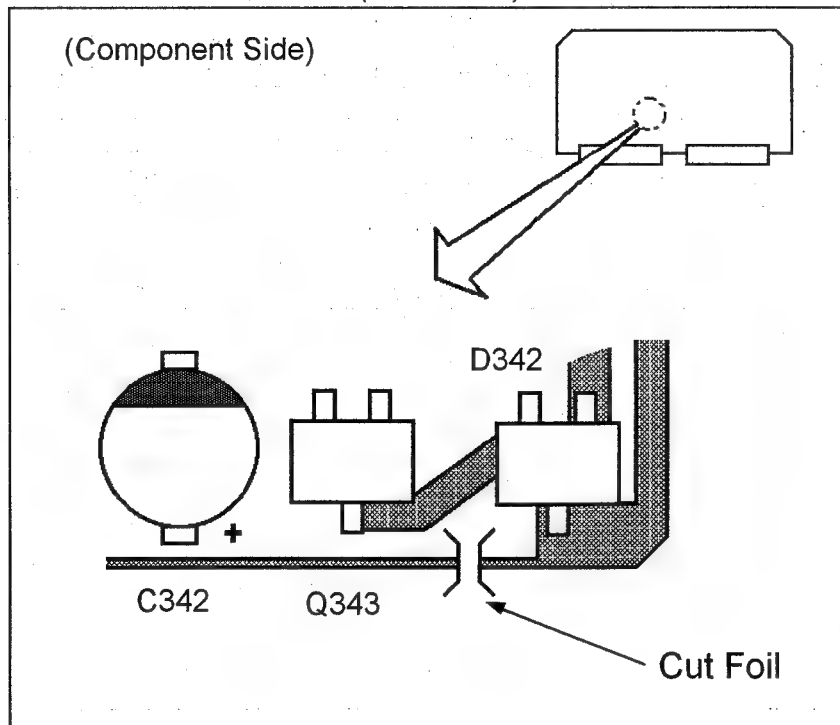


Fig. 2 Page 3-9 (E-3)

## F8 ADDA CUE P.C. Board (VEP84293B)

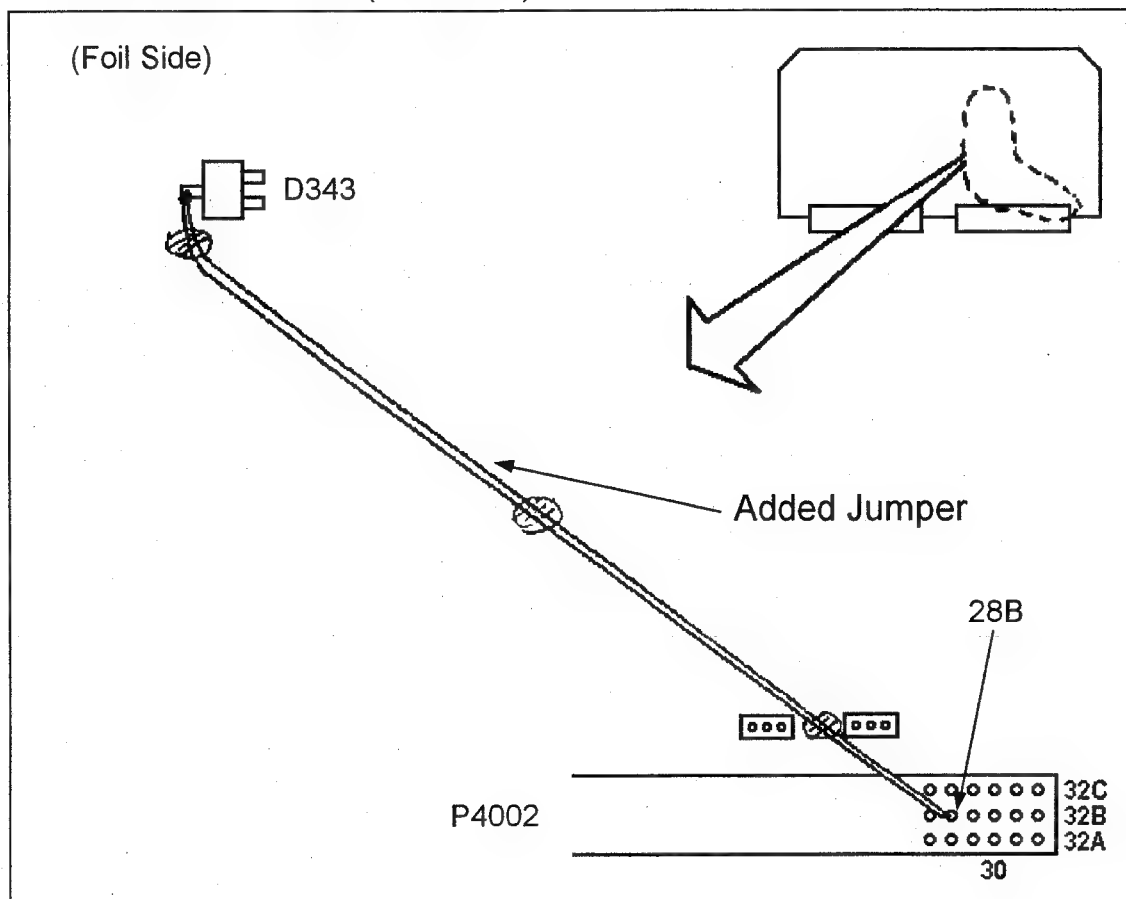


Fig. 3 Page 3-9

8115 J  
8116

Order No. VSD9704SC604

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Improvement of SCH OUT**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	18	VSD9612MJ01A/B	K6TRA0001
AJ-D640E	18	VSD9612MJ01A/B	K6TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : SCH may be out of specification.

Remedy : To prevent of it, resistor R927 is changed from 1/16W, 10K $\Omega$  to 1/16W, 6.8K $\Omega$  on the foil side.  
After this modification, 7-11. Burst Phase Adjustment 1 is required.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R927	ERJ3GEYJ103	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R927	2-56	C-8 (12/16)	3-5	B-1 (F)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Vector Distortion Adjustment Range

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	19	VSD9612MJ01A/B	K6TRA0001
AJ-D640E	19	VSD9612MJ01A/B	K6TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : There is a little margin of the Vector Distortion Adjustment range.

Remedy : To prevent it, resistor R542 is changed from 1/16W, 100 $\Omega$  to 1/16W, 10 $\Omega$  on the foil side.  
After this modification, 7-9. Vector Adjustment (VR507:QUAD Phase) is required.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R542	ERJ3GEYJ101	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R542	2-51	B-6 (7/16)	3-5	I-1 (F)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of K Factor Margin

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	20	VSD9612MJ01A/B	K6TRA0001
AJ-D640E	20	VSD9612MJ01A/B	K6TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : There is a little margin of the K factor at the Component IN/OUT.

Remedy : To prevent it, the following modification is performed.

- 1). Capacitors C327 and C331 (50V/12pF) and C338 and C342 (50V/10pF) are deleted from the foil side.
- 2). Capacitors C341 and C345 (50V/120pF) are added to no mounted pattern on the foil side.
- 3). Resistors R365 and R371 (1/16W, 390Ω) are added to no mounted pattern on the foil side.
- 4). After this modification, the following adjustments are required.
  - 7-17. Component PB Level Adjustment
  - 7-18. Component PR Level Adjustment
  - 7-19. Component Y-PB Timing Adjustment
  - 7-20. Component Y-PR Timing Adjustment

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C327	ECUX1H120JCV	—	C. CAPACITOR CH 50V 12P	1→0	
C331	ECUX1H120JCV	—	C. CAPACITOR CH 50V 12P	1→0	
C338	ECUX1H100DCV	—	C. CAPACITOR CH 50V 10P	1→0	
C341	—	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	0→1	
C342	ECUX1H100DCV	—	C. CAPACITOR CH 50V 10P	1→0	
C345	—	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	0→1	
R365	—	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	0→1	
R371	—	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	0→1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
C327	2-49	D-6 (5/16)	3-5	G-1 (R)
C331	2-49	B-6 (5/16)	3-5	F-1 (R)
C338	2-49	D-7 (5/16)	3-5	G-1 (R)
C341	2-49	C-7 (5/16)	3-5	G-1 (R)
C342	2-49	B-7 (5/16)	3-5	G-1 (R)
C345	2-49	B-7 (5/16)	3-5	F-1 (R)
R365	2-49	C-7 (5/16)	3-5	G-1 (R)
R371	2-49	B-7 (5/16)	3-5	F-2 (R)

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V18115V  
V18116

Order No. VSD9704SC608

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Improvement of Black Level at V Blanking Area**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	22	VSD9612MJ01A/B	L6TRA0001
AJ-D640E	22	VSD9612MJ01A/B	L6TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : Black level of the V blanking area may be out of specification.

Remedy : To prevent it, the following modification is performed.

- 1). Resistor R374 is changed from 1/16W, 1.5K $\Omega$  to 1/16W, 1.3K $\Omega$  on the component side.
- 2). Resistor R375 is changed from 1/16W, 33K $\Omega$  to 1/16W, 27K $\Omega$  on the component side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R374	ERJ3GEYJ152	ERJ3RBD132	M. RESISTOR CH 1/16W 1.3K	1	
R375	ERJ3GEYJ333	ERJ3RBD273	M. RESISTOR CH 1/16W 27K	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R374	2-49	E-8 (5/6)	3-5	G-2 (C)
R375	2-49	E-8 (5/6)	3-5	G-2 (C)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Audio Input Level Adjustment

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	23	VSD9612MJ01A/B	A7TRA0001
AJ-D640E	23	VSD9612MJ01A/B	A7TRA0001

Board : ADDA CUE (F8:VEP84293B)

Symptom : Audio input level cannot be adjusted.

Cause : Due to a little margin of the Audio input level adjustment range.

Remedy : To improve the audio input level adjustment, the following modification is performed.

- 1). Resistors R4040 and R4100 are changed from 1/16W, 10K $\Omega$  to 1/16W, 3.3K $\Omega$  on the component side.
- 2). Resistors R4041 and R4101 are changed from 1/16W, 470 $\Omega$  to 1/16W, 0 $\Omega$  on the foil side.
- 3). Resistors R4048 and R4108 are changed from 1/16W, 0 $\Omega$  to 1/16W, 680 $\Omega$  on the foil side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R4040	ERJ3GEYJ103	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R4041	ERJ3GEYJ471	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R4048	ERJ3GEY0R00	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R4100	ERJ3GEYJ103	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R4101	ERJ3GEYJ471	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R4108	ERJ3GEY0R00	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R4040	2-115	D-6 (1/12)	3-9	J-3 (C)
R4041	2-115	D-6 (1/12)	3-9	J-3 (F)
R4048	2-115	B-2 (1/12)	3-9	I-4 (F)
R4100	2-116	D-6 (2/12)	3-9	I-3 (C)
R4101	2-116	D-6 (2/12)	3-9	I-3 (F)
R4108	2-116	B-2 (2/12)	3-9	H-4 (F)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Y/C OUT Gain

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	24	VSD9612MJ01A/B	A7TRA0001
AJ-D640E	24	VSD9612MJ01A/B	A7TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : There is a level difference between Composite OUT and Y/C OUT.

Remedy : To reduce the level difference, the gain of Y/C OUT is increased. The following modification is performed.

- 1). Resistor R834 is changed from ERJ3GEYJ821 to ERJ3RBD821 on the component side.
- 2). Resistors R835, R836, R838, R839 and R840 are changed from ERJ3GEYJ821 to ERJ3RBD821 on the foil side.

Part Number	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.					
R834~ 836	ERJ3GEYJ821	ERJ3RBD821	M. RESISTOR CH 1/16W 820	3	
R838~ 840	ERJ3GEYJ821	ERJ3RBD821	M. RESISTOR CH 1/16W 820	3	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R834	2-54	C-8 (10/16)	3-5	I-3 (C)
R835	2-54	C-8 (10/16)	3-5	I-3 (F)
R836	2-54	B-8 (10/16)	3-5	I-3 (F)
R838	2-54	A-8 (10/16)	3-5	I-3 (F)
R839	2-54	B-8 (10/16)	3-5	I-3 (F)
R840	2-54	A-8 (10/16)	3-5	I-3 (F)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Reduction of PCM Audio Noise during DV Slow Playback Mode

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	26	VSD9612MJ01A/B	A7TRA0001
AJ-D640E	26	VSD9612MJ01A/B	A7TRA0001

Board : A PROC (F7:VEP84292A)

Symptom : PCM Audio noise may appear during DV Slow Playback mode.

Cause : Clock phase which input to LSI (IC12) is not good.

Remedy : To reduce the PCM Audio noise during DV Slow Playback mode, capacitor C30 (50V/1000pF) is added between pins #2 and #8 of IC9 on the component side as shown in figure 1.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C30	—	ECKF1H102KB	C. CAPACITOR 50V 1000P	0→1	

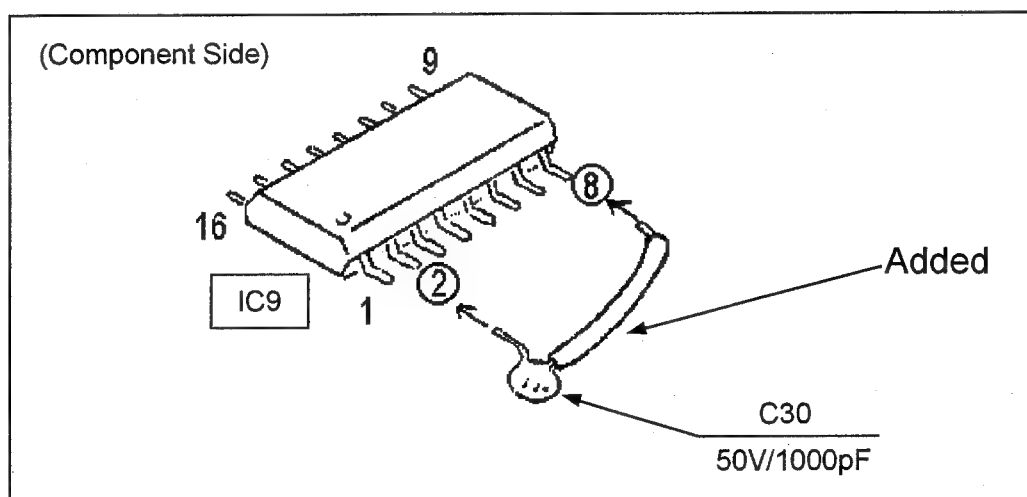


Fig. 1 Page 3-8 (C-3)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Reduction of PCM Audio Noise during EE Mode**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	25	VSD9612MJ01A/B	A7TRA0001
AJ-D640E	25	VSD9612MJ01A/B	A7TRA0001

Board : A PROC (F7:VEP84292A)

Symptom : PCM Audio noise may appear during EE mode.

Cause : Phases between frame signal from the F5 REC PB Board and 18MHz clock are not good.

Remedy : To reduce the PCM Audio noise during EE mode, the following modification is performed.

- 1). Resistor R49 (1/10W, 0Ω) is deleted from foil side.
- 2). Resistor R48 (1/10W, 0Ω) is added to the pattern on the foil side.

Part Number	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R48	---	ERJ6GEY0R00	M. RESISTOR CH 1/10W 2	0→1	
R49	ERJ6GEY0R00	---	M. RESISTOR CH 1/10W 2	1→0	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R48	2-103	B-4 (2/13)	3-8	A-4 (F)
R49	2-103	B-4 (2/13)	3-8	A-4 (F)

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V181151  
V18116

Order No. VSD9704SC613

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Improvement of Index Area Switching Position**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	27	VSD9612MJ01A/B	A7TRA0001
AJ-D640E	27	VSD9612MJ01A/B	A7TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : Index area switching position may be 1H shifted.

Remedy : To prevent it, the PLD IC700 is changed from VSI2403 to VSI2403A on the component side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC700	VSI2403	VSI2403A	IC	1	Checksum : 0024DDF5

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC700	2-53	D-5 (9/16)	3-5	A-4 (C)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Pb/Pr and Composite Chroma Levels

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	28	VSD9612MJ01A/B	B7TRA0001
AJ-D640E	28	VSD9612MJ01A/B	B7TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : Pb and Pr levels and Composite Chroma level cannot be adjusted.

Cause : Due to the tolerance of DA reference voltage.

Remedy : To improve them, the following modification is performed.

- 1). Resistors R308 and R309 are changed from ERJ3GEYJ472 to ERJ3RBD472 on the foil side.
- 2). Resistors R310 and R311 are changed from ERJ3GEYJ103 to ERJ3RBD103 on the foil side.
- 3). Resistors R502 and R503 are changed from ERJ3GEYJ472 to ERJ3GEYJ272 on the foil side.
- 4). Variable Resistors VR305 and VR306 are changed from 100Ω to 500Ω on the component side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R308, 309	ERJ3GEYJ472	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	2	
R310, 311	ERJ3GEYJ103	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2	
R502, 503	ERJ3GEYJ472	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	2	
VR305, 306	EVMESGA00B12	EVMESGA00B52	V. RESISTOR 500	2	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R308	2-49	E-4 (5/16)	3-5	F-3 (F)
R309	2-49	E-4 (5/16)	3-5	F-3 (F)
R310	2-49	D-4 (5/16)	3-5	F-3 (F)
R311	2-49	D-4 (5/16)	3-5	F-3 (F)
R502	2-51	F-3 (7/16)	3-5	H-2 (F)
R503	2-51	F-3 (7/16)	3-5	G-2 (F)
VR305	2-49	C-7 (5/16)	3-5	G-1 (C)
VR306	2-49	B-7 (5/16)	3-5	F-1 (C)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Standardization of REC PB P.C. Board**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	30	VSD9612MJ01A/B	A7TRA0001
AJ-D640E	30	VSD9612MJ01A/B	A7TRA0001

Board : REC PB (F5:VEP83353B)

To standardize the F5 REC PB P.C. Board, the following resistors are added or deleted as shown below.

- 1). Resistor R3131 (1/10W, 0Ω) is deleted from the foil side.
- 2). Resistor R3132 (1/10W, 0Ω) is added to no mounted pattern of the foil side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R3131	ERJ3GEY0R00	---	M. RESISTOR CH 1/10W 0	1→0	
R3132	---	ERJ3GEY0R00	M. RESISTOR CH 1/10W 0	0→1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R3131	2-61	C-3 (1/23)	3-6	D-3 (F)
R3132	2-61	B-3 (1/23)	3-6	D-3 (F)

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Order No. VSD9706SA661

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

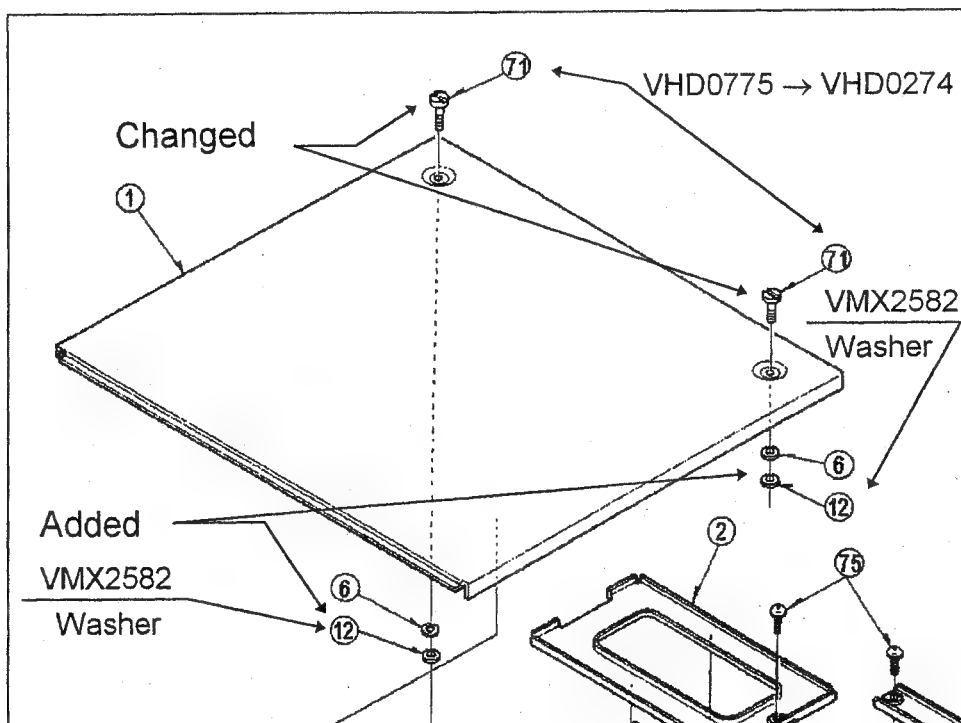
### Subject : Service Manual Correction

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	61	VSD9606M502A	---
AJ-D650E	39	VSD9612MJ01A	---
AJ-D640E	39	VSD9612MJ01A	---

### Casing Parts Assembly

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
12	---	VMX2582	WASHER	0→2	
71	VHD0775	VHD0274	SCREW	2	



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7726  
8115 ✓

Order No. VSD9706SA665

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Prevention of Screw Looseness

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	65	VSD9606M502A	L6TRB0001
AJ-D650E	40	VSD9612MJ01A	L6TRA0001
AJ-D640E	40	VSD9612MJ01A	L6TRA0001

#### Cassette Compartment Assembly

Symptom : Screws for Cassette Compartment as shown below may be loosened due to the vibration.

Remedy : To prevent the screw from loosening, the screws are changed from XQN2+A3 to XYN2+C3 as shown below.

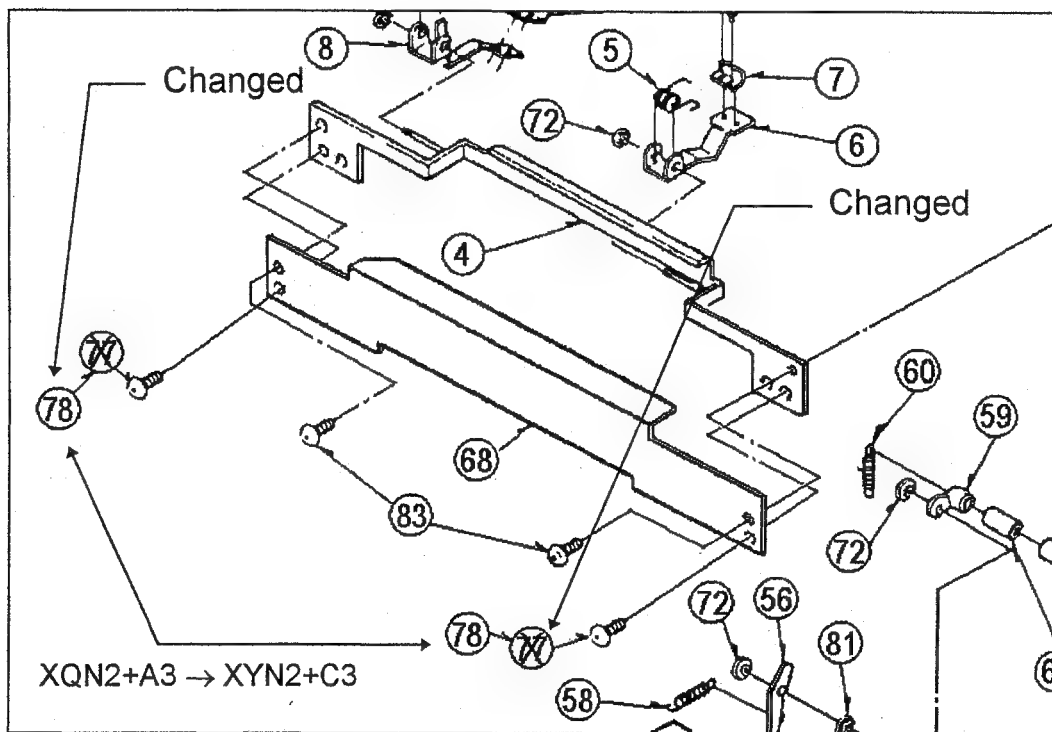
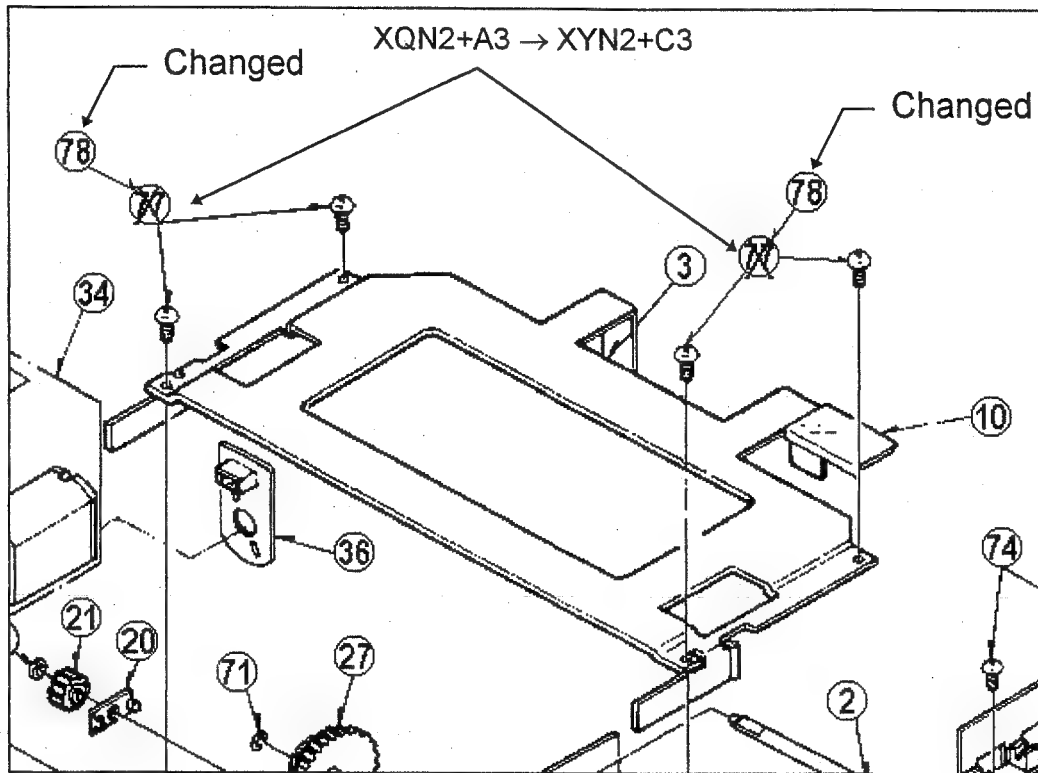
According to this change, the Cassette Compartment unit is changed from VXA5850 to VXA5934.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
1	VXA5850	VXA5934	CASSETTE COMPARTMENT U	1	
77	XQN2+A3	---	SCREW	6→0	
78	---	XYN2+C3	SCREW	0→6	

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# Technical Bulletin

## Supplement to the Service Manual

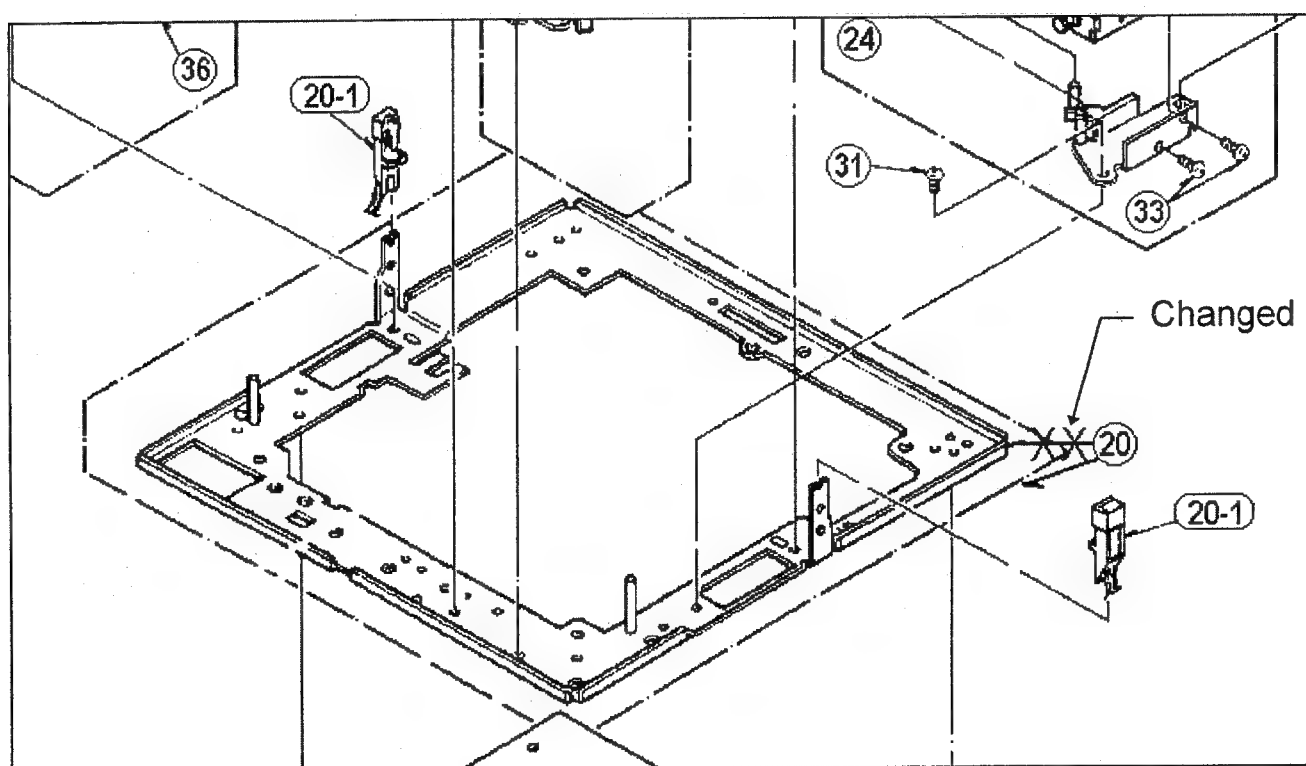
Broadcast Product

### Subject : Service Manual Correction

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	41	VSD9612MJ01A	---
AJ-D640E	41	VSD9612MJ01A	---

#### Sub Chassis Assembly



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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Prevention of Screw Looseness**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	69	VSD9606M502A	L6TRB0001
AJ-D650E	42	VSD9612MJ01A	L6TRA0001
AJ-D640E	42	VSD9612MJ01A	L6TRA0001

### Sub Chassis Assembly

**Symptom :** When the L or M cassette is inserted, the Cassette Compartment unit may touch with the Take-up Brake.

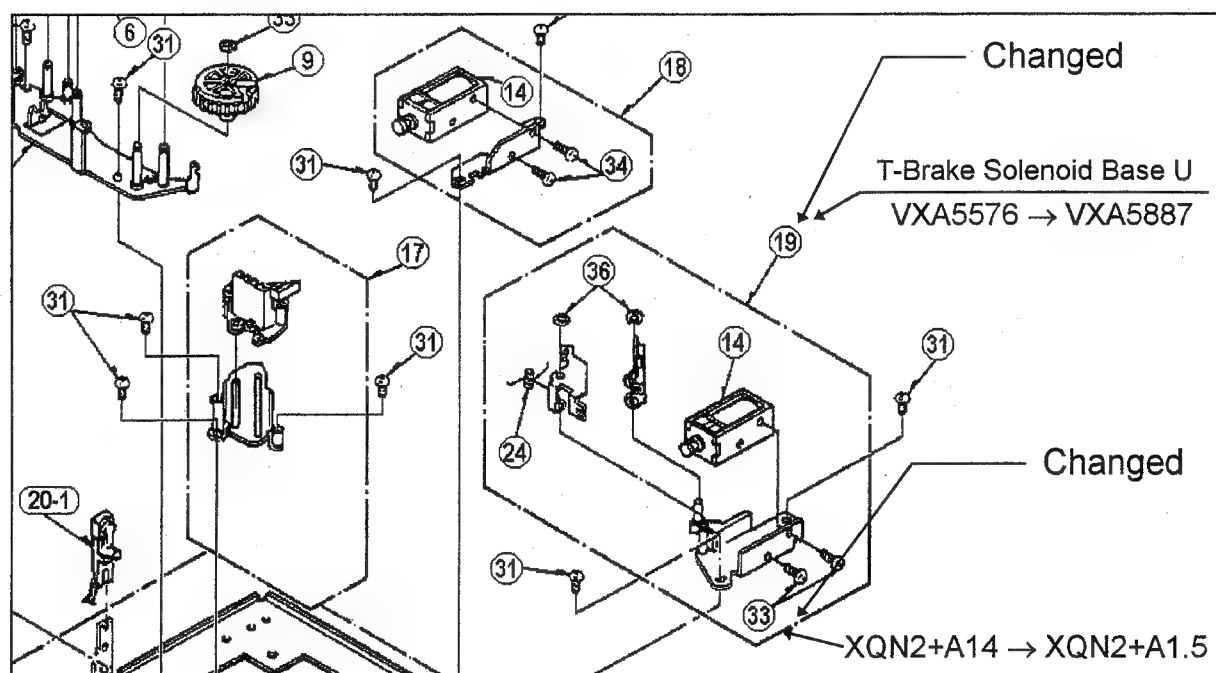
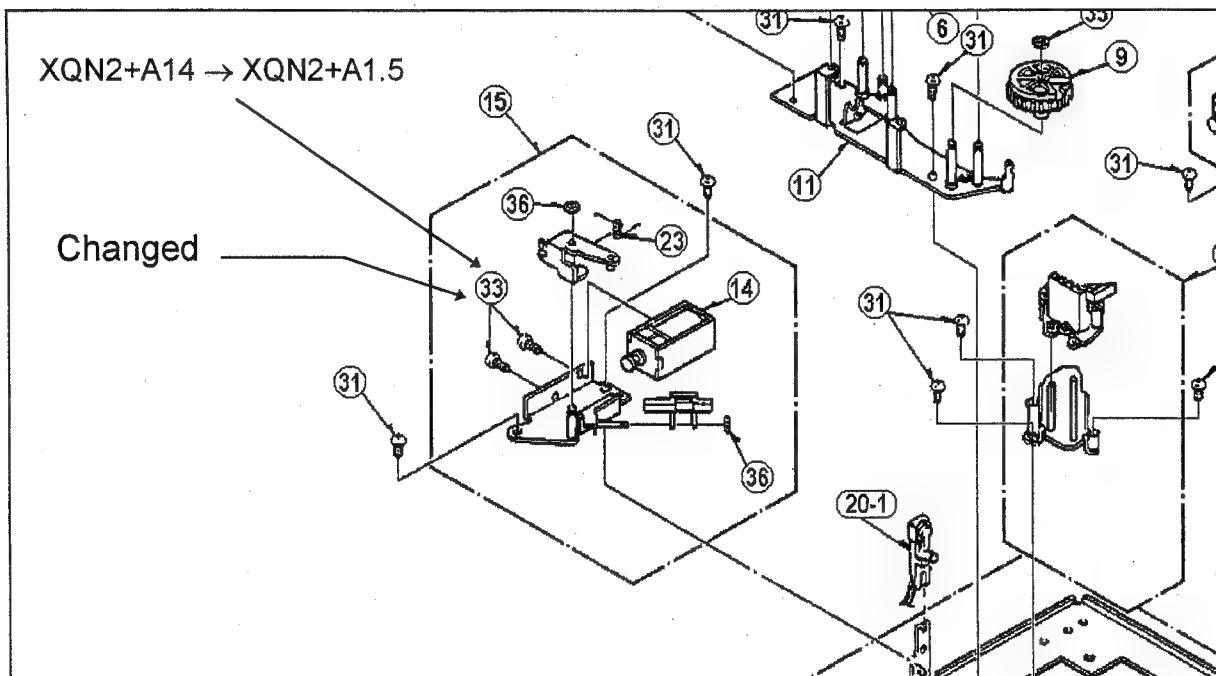
**Remedy :** To prevent it, the T-Brake Solenoid Base unit is changed from VXA5576 to VXA5887 as shown below. According to this change, the screws for Take-up and Supply Brake Solenoid Base (1) unit is changed from XQN2+A14 to XQN2+A1.5.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
19	VXA5576	VXA5887	T-BRAKE SOLENOID BASE U	1	
33	XQN2+A14	XQN2+A1.5	SCREW	4	

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Order No. VSD9706SA670

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Change of Parts Supply Method

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	70	VSD9606M502A	L6TRB0001
AJ-D650E	43	VSD9612MJ01A	L6TRA0001
AJ-D640E	43	VSD9612MJ01A	L6TRA0001

#### Packing Parts Assembly

To improve the manufacturing productivity, the parts supply method of the Top Panel and P.C.Board Plates are changed as shown below.

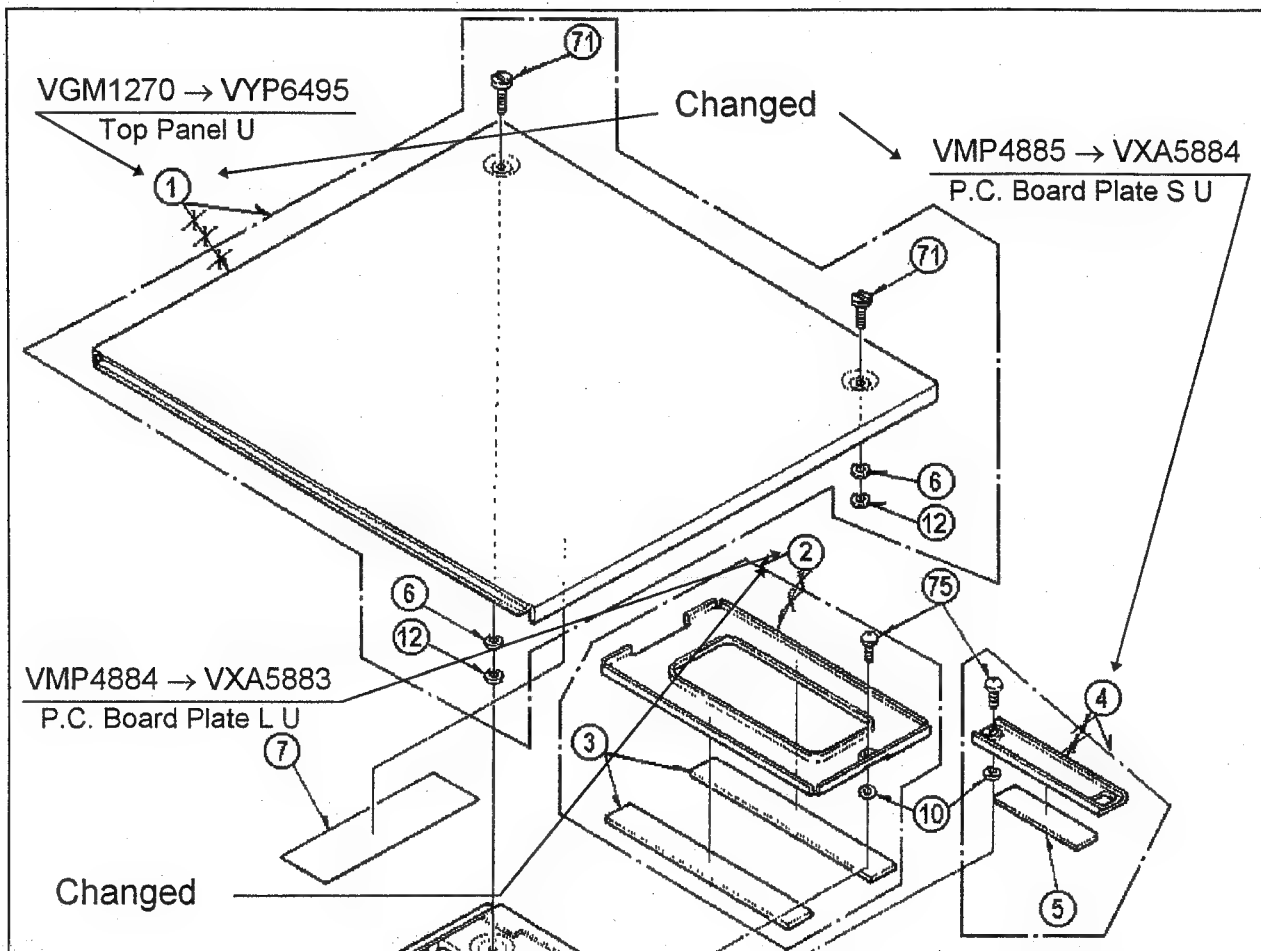
Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
1	VGM1270	VYP6495	TOP PANEL U	1	
2	VMP4884	VXA5883	P.C.BOARD PLATE L U	1	
4	VMP4885	VXA5884	P.C.BOARD PLATE S U	1	

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Order No. VSD9706SA671

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Change of Screws

Please use this supplement together with the Service Manual as follows :

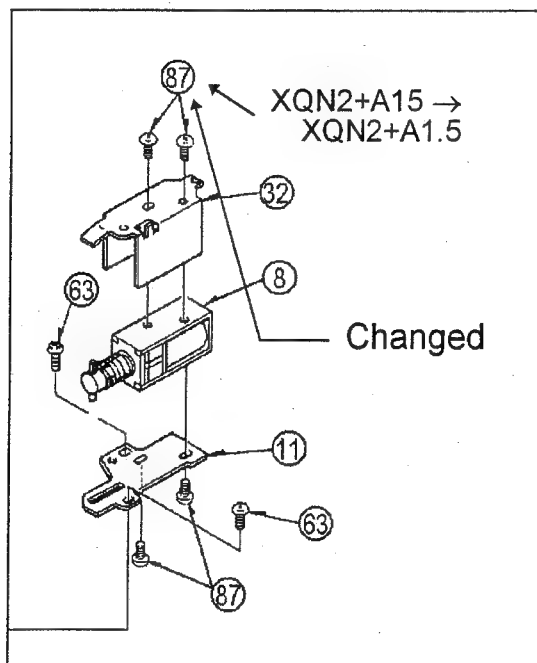
Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	71	VSD9606M502A	A7TRB0001
AJ-D650E	44	VSD9612MJ01A	A7TRA0001
AJ-D640E	44	VSD9612MJ01A	A7TRA0001

#### Mechanical Chassis Assembly (2)

#### Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☒ The following part(s) has(have) been changed for productivity improvement.
- ☐ The following part(s) has(have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
87	XQN2+A15	XQN2+A1.5	SCREW	4	



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Order No. VSD9706SA672

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

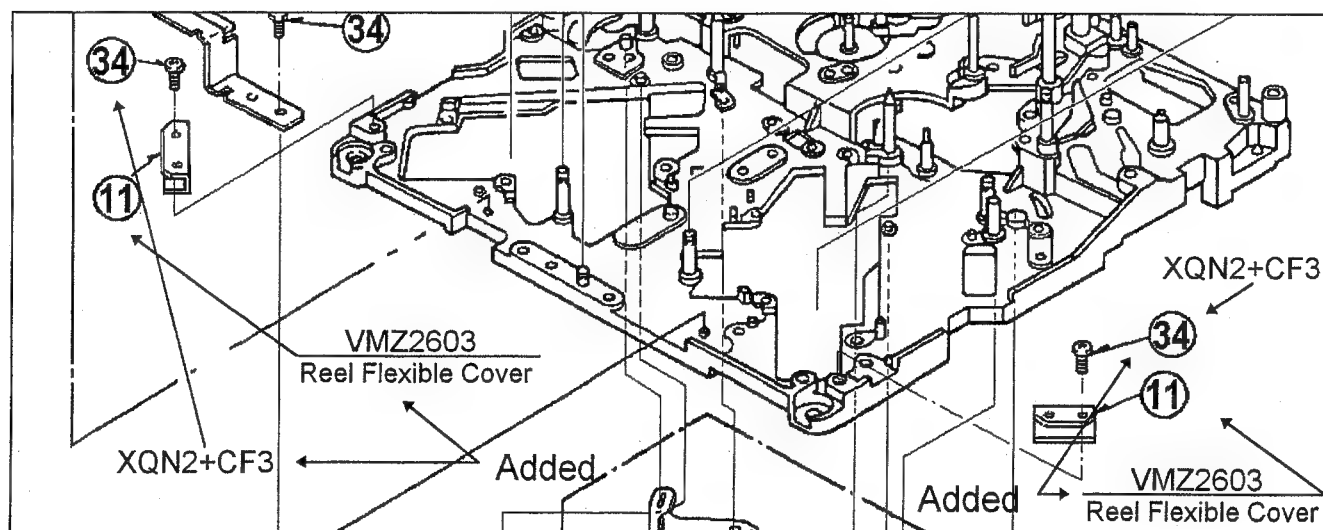
**Subject : Service Manual Correction**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	72	VSD9606M502A	---
AJ-D650E	45	VSD9612MJ01A	---
AJ-D640E	45	VSD9612MJ01A	---

### Mechanical Chassis Assembly (1)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
11	---	VMZ2603	REEL FLEXIBLE COVER	0→2	
34	---	XQN2+CF3	SCREW	0→2	



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# Technical Bulletin

## Supplement to the Service Manual

### Broadcast Product

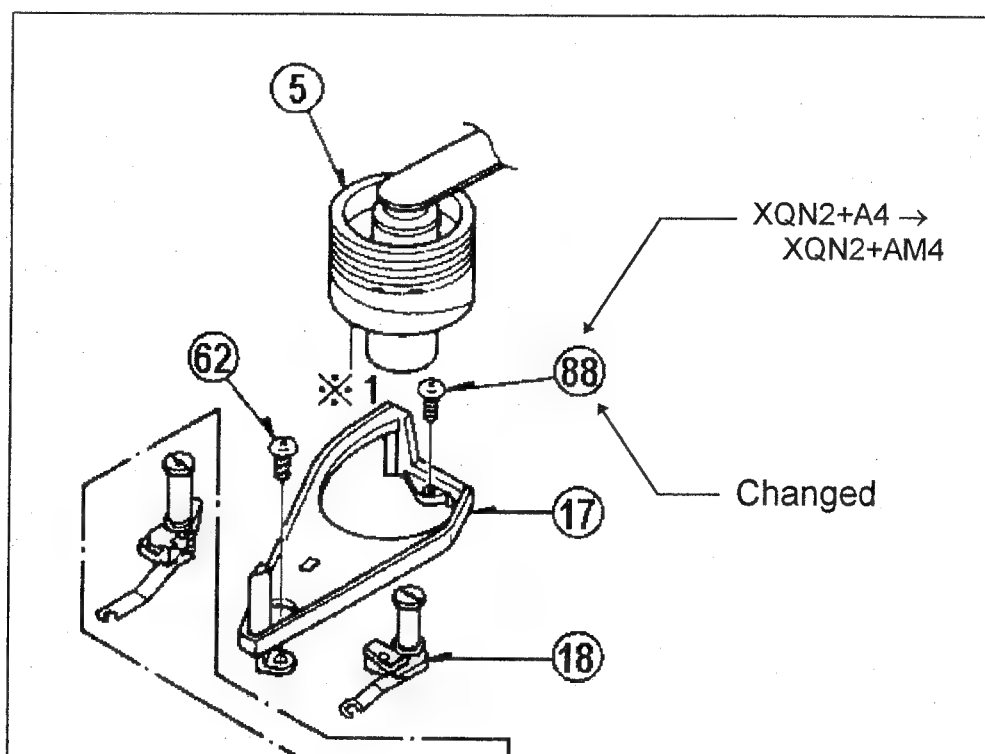
**Subject : Service Manual Correction**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	74	VSD9606M502A	---
AJ-D650E	46	VSD9612MJ01A	---
AJ-D640E	46	VSD9612MJ01A	---

## Mechanical Chassis Assembly (2)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
88	XQN2+A4	XQN2+AM4	SCREW	1	



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V18115 ✓

Order No. VSD9706SA675

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Prevention of Cassette Tape Incorrect Insertion**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	75	VSD9606M502A	B7TRB0001
AJ-D650E	47	VSD9612MJ01A	B7TRA0001
AJ-D640E	47	VSD9612MJ01A	B7TRA0001

### Casing Parts Assembly

Symptom : M cassette may not be inserted correctly.

Cause : Cassette compartment may slide a little to horizontal direction. It results in incorrect insertion of the cassette compartment.

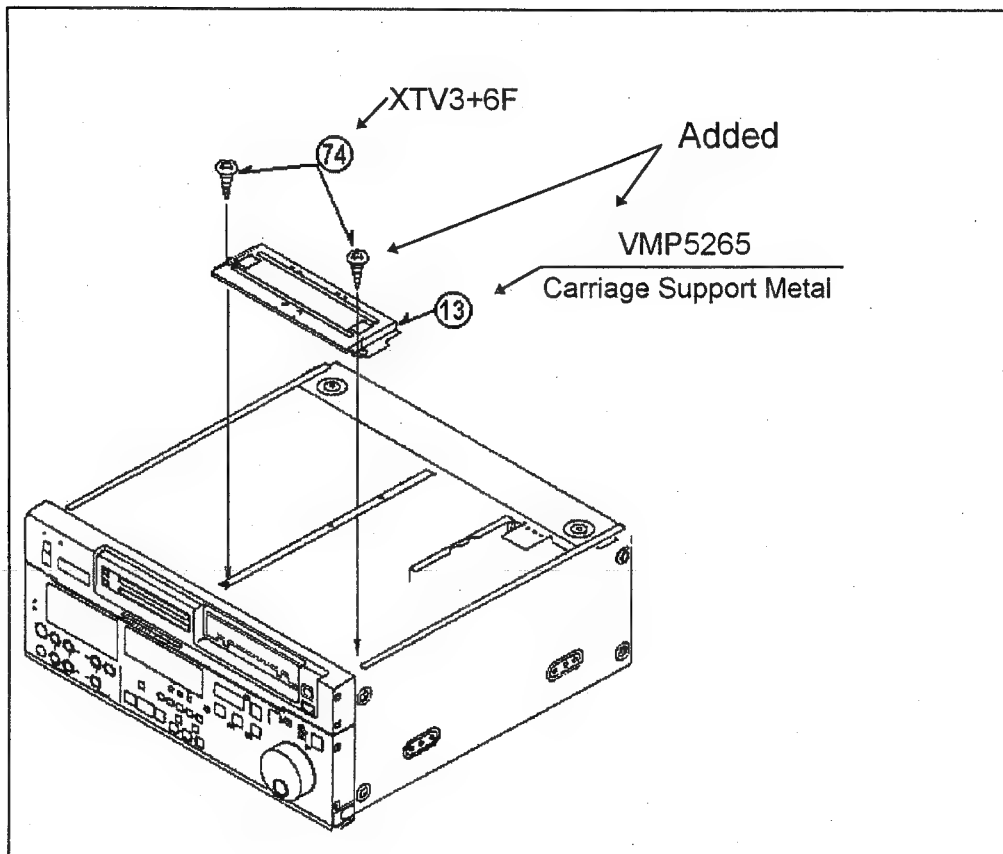
Remedy : To fix the cassette compartment, the Carriage Support Metal (VMP5265) is added on the Cassette Compartment as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
13	-----	VMP5265	CARRIAGE SUPPORT METAL	0→1	
74	-----	XTV3+6F	SCREW	0→2	

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V17726  
V18115

Order No. VSD9706SA676

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Standardization of Sub Chassis Unit

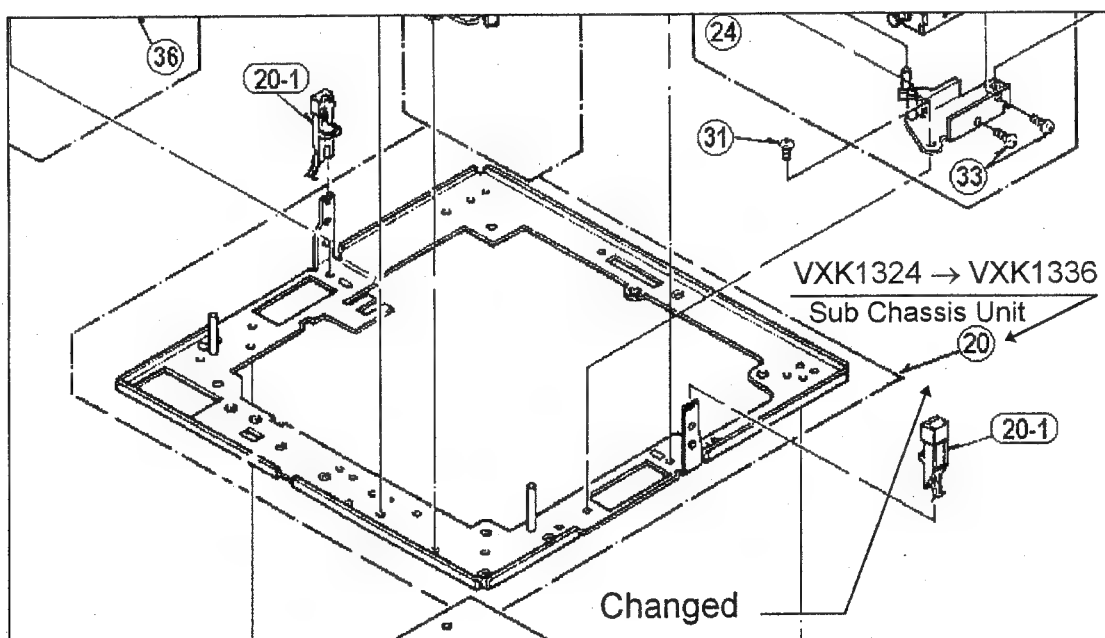
Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	76	VSD9606M502A	B7TRB0001
AJ-D650E	48	VSD9612MJ01A	B7TRA0001
AJ-D640E	48	VSD9612MJ01A	B7TRA0001

#### Sub Chassis Assembly

To standardize the parts, the Sub Chassis Unit is changed from V XK1324 to V XK1336 as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
20	VXK1324	VXK1336	SUB CHASSIS U	1	



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V 17726 volh.  
 17728 volh.  
 18415  
 20161 volh.

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Extension of Maintenance Time

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN V 17726 volh.	77	VSD9606M502A	
AJ-D700E/EN V 17728 volh.	48	VSD9606M501A	
AJ-D650E V 18415	49	VSD9612MJ01A	
AJ-D640E	49	VSD9612MJ01A	
AJ-D800E/EN V 20161 volh.	1	VSD9708M606A	

The Maintenance Time has been extended after investigation of each parts durability.

The listed maintenance time is based on head rotation time, unless it is otherwise state as based on Operation Time.

(Unit hours)

	Current AJ-D700 AJ-D800	Current AJ-D750 AJ-D650 AJ-D640	New Common	Remark
Cylinder Unit	1,000	1,500	2,000	
Pinch Arm Unit	1,000	1,500	4,000	
Cleaning Arm Unit	1,000	1,500	2,000	
S Reel (Rotor Unit)	1,000	6,000	6,000	
T Reel (Rotor Unit)	1,000	6,000	6,000	
Thrust Screw Unit	Not Listed	Not Listed	6,000	Newly added
S1 Loading Arm Unit	3,000	3,000	12,000	Replaced with Mech. Chassis Unit
T1 Boat Unit	3,000	3,000	12,000	Replaced with Mech. Chassis Unit
S5 Post Unit	3,000	3,000	12,000	Replaced with Mech. Chassis Unit
Tension Arm Unit	3,000	3,000	12,000	Replaced with Mech. Chassis Unit
S Brake Arm Unit	Not Listed	Not Used	6,000	
T Brake Arm Unit	Not Listed	Not Used	6,000	
Front Loading Unit	Not Used	6,000	12,000	Replaced with Mech. Chassis Unit
Mech. Chassis Unit	3,000	6,000	12,000	
1.5" CRT (EVF)	Not Listed	Not Used	5,000	Operation Time.
Fan Motor	Not Used	3,000	10,000	Operation Time (Current head rotation time)
LCD Display	Not Used	Not Listed	10,000	Operation TimeAJ-LT75 only

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# 1. AJ-D700E/EN / AJ-D800E/EN Maintenance Maintenance Schedule

	Name	Part Number	Hours of Use ( hours)					
			2,000	4,000	6,000	8,000	10,000	12,000
	Tape Path Cleaning		△ Clean the Tape Path at each 500 hours					
1	Cylinder Unit	VEG1337	●	●	●	●	●	◎
2	Pinch Arm Unit	VXL2684		● *1		● *1		◎
3	Cleaning Arm Unit	VXL2748	●	●	●	●	●	◎
4	S Reel(Rotor Unit)	VEM0629			●			◎
5	T Reel(Rotor Unit)	VEM0630			●			◎
6	S Brake Arm Unit	VXL2705			●			◎
7	T Brake Arm Unit	VXL2706			●			◎
8	Thrust Screw Unit	VXQ0556			●			◎
9	Mech. Chassis Unit	VXY1229						●
10	1.5" CRT (EVF)	M04KYS07WB	Replace the CRT at each 5,000 hours <u>Operation Time</u> .					

**Note:** Hours of Use are based on the head rotation hours.

Hours of Use are recommendation. It may depend on temperature, humidity or dust.

Hours of Use are listed as the reference of maintenance. They do not mean guaranteed hours.

◎:These parts are included in Mech. Chassis Unit. Replacing Mech. Chassis Unit is recommended.

\*1. The lubrication is necessary when replacing the Pinch Arm Unit.

△:This mark means cleaning is necessary. Detail cleaning procedures are written in Service Manual.

## 2. AJ-D750E/EN / AJ-D650E / AJ-D640E Maintenance

### Maintenance Parts Chart

	Name	Part Number	Hours of Use (unit hours)					
			2,000	4,000	6,000	8,000	10,000	12,000
	Tape Path Cleaning		△ Clean the Tape Path at each 500 hours					
1	Cylinder Unit	VEG1337	●	●	●	●	●	◎
2	Pinch Arm Unit	VXL2684		●*1		●*1		◎
3	Cleaning Arm Unit	VXL2748	●	●	●	●	●	◎
4	S Reel Motor A Unit	VEM0635			●			◎
5	T Reel Motor A Unit	VEM0636			●			◎
6	Thrust Screw Unit	VXQ0556			●			◎
7	Cassette Compartment Unit	VXA5979						●
8	Mech. Chassis Unit	VXY1254Z1						●
9	Fan Motor	VRF0190	Replace Fan Motor at each 10,000 hours <i>Operation Time.</i>					

**Note:** Hours of Use are based on the head rotation hours.

Hours of Use are recommendation. It may depend on temperature, humidity or dust.

Hours of Use are listed as the reference of maintenance. They do not mean guaranteed hours.

◎:These parts are included in Mech. Chassis Unit. Replacing Mech. Chassis Unit is recommended.

\*1. The lubrication is necessary when replacing the Pinch Arm Unit.

△:This mark means cleaning is necessary. Detail cleaning procedures are written in Service Manual.

V18116 V

Order No. VSD9708SC622

# Technical Bulletin

## **Supplement to the Service Manual**

Broadcast Product

**Subject : Major Mechanism Parts Replacement and Adjustment Procedures**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	50	VSD9612MJ01A	First Production
AJ-D640E	50	VSD9612MJ01A	First Production

6. Major Mechanism Parts Replacement and Adjustment Procedures on this supplement should be added to the Section 3 "Maintenance & Mechanical Adjustment" of the service manual.

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## 6. MAJOR MECHANISM PARTS REPLACEMENT AND ADJUSTMENT PROCEDURES

### GENERAL

When mechanical parts are replaced, pay attention to the following notes.

1. Always turn power off before replacing any parts.
2. If any adjustment is necessary after the parts is replaced, perform the adjustment after replacement.
3. Use proper hard tools or fixtures.
4. Be sure to clean the parts after replacement. Also when the mechanical parts are replaced, follow the replacement procedure.

### 6-1. Cylinder Unit Replacement

#### (Removal)

1. Remove the Top Panel (Refer to item [2-1. Removal of Top Panel]).
2. Remove the Bottom Panel (Refer to item [2-2. Removal of Bottom Panel]).
3. Unscrew the 2 screws and remove the T1 GUIDE (Refer to item 6-1-1).
4. Remove the cleaning Arm Unit (Refer to item 6-1-1).
5. Disconnect the connector P5002 and P5003 on the Head Buffer P.C.Board. And remove the screw which is fixed with the flexible cable as shown in Fig. 6-1-1.

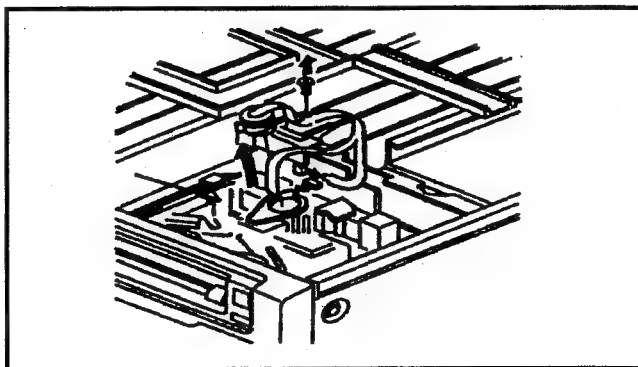


Fig. 6-1-1

**Note:** Be careful when remove the flexible cable from the connector. Refer to Fig. 6-1-2.

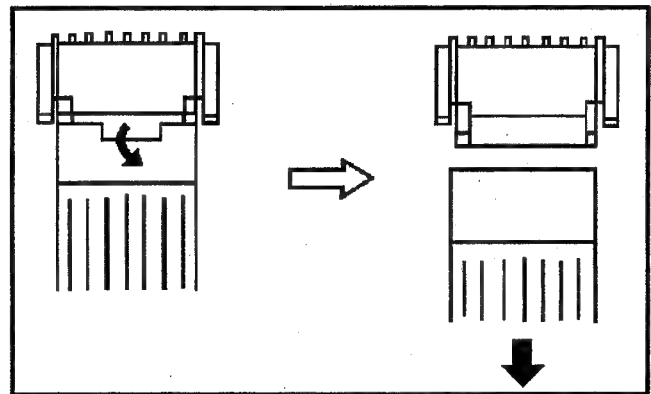


Fig. 6-1-2

6. Disconnect the connector P33 of the MECHA I/F P.C.Board. And remove the 3 screws which have spring from the Cylinder Unit, then remove the Cylinder Unit without touching any mechanical parts as shown in Fig. 6-1-3.

**Note:** Never touch the cylinder by finger directly, when pull out the Cylinder Unit.

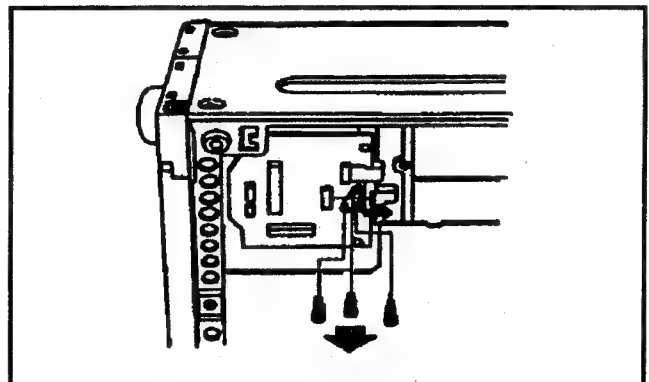


Fig. 6-1-3

#### (Installation)

1. Install the new Cylinder Unit and reverse the previous steps.

**Note:** When install the Cylinder Unit, the pins on MECHA chassis should be matched with the holes of Cylinder Unit as shown in Fig. 6-1-4.

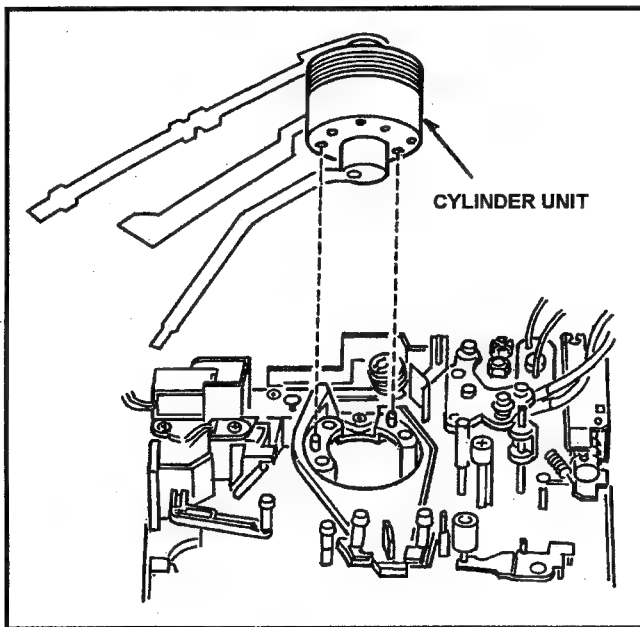


Fig. 6-1-4

2. After installation of T1 Guide, T1 Guide Position Adjustment should be performed (Refer to item 6-1-2).
3. After replacing the Cylinder Unit, perform the adjustments according to the flowchart shown in item [6-1-3. Adjustment Flowchart after Cylinder Unit Replacement] .

### 6-1-1. Cleaning Arm Unit Replacement

#### (Removal)

1. Remove the Top Panel.
2. Unscrew the 2 screws (A) and remove the T1 Guide as shown in Fig. 6-1-5.
3. Expand the tip portion (B) of cleaning Arm Unit and pull up the Cleaning Arm Unit, and hang off the spring from the Cleaner Arm Unit as shown in Fig. 6-1-5.

#### (Installation)

1. Install the Cleaning Arm Unit, then hang on the spring to the Cleaning Arm Unit.
2. Press the iron core of the Cleaner Solenoid and confirm that the Cleaner Roller rotates when the cylinder is rotated by hand.
3. Install the T1 Guide by tightening 2 screws (A).
4. T1 Guide Position Adjustment should be performed as follows.

### 6-1-2. T1 Guide Position Adjustment

Place the unit in the Loading completed position.

#### < How to make the Loading Condition >

- Open the "Servo Adjust" menu in the "Service Menu".
- Select the item "T TORQUE" and press the STOP button for making the loading condition and turn power off.

1. Observe the clearance (B) between T1 Guide and T1 post as shown in Fig. 6-1-6. And make sure that it is within 0.2 to 0.5mm.
2. If not, loosen the 2 screws (A) and adjust the position of T1 Guide by moving arrow direction (G  $\rightleftharpoons$  G) so that the clearance (B) is within specification. Then tighten the 2 screws (A).

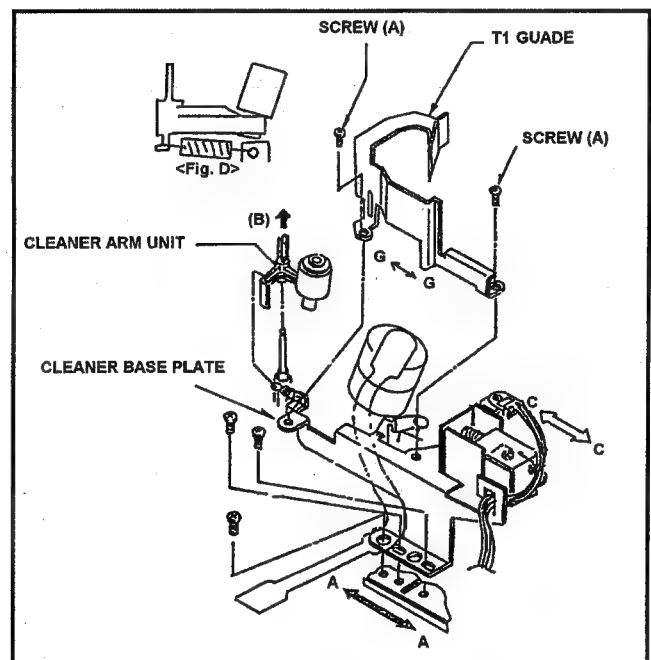


Fig. 6-1-5 Removal of Cleaner Roller Unit

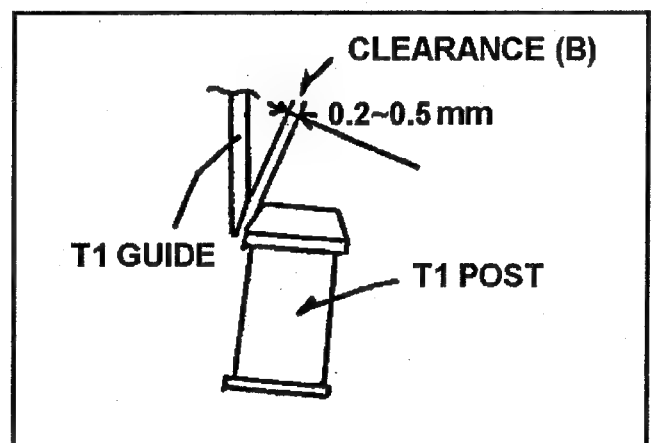
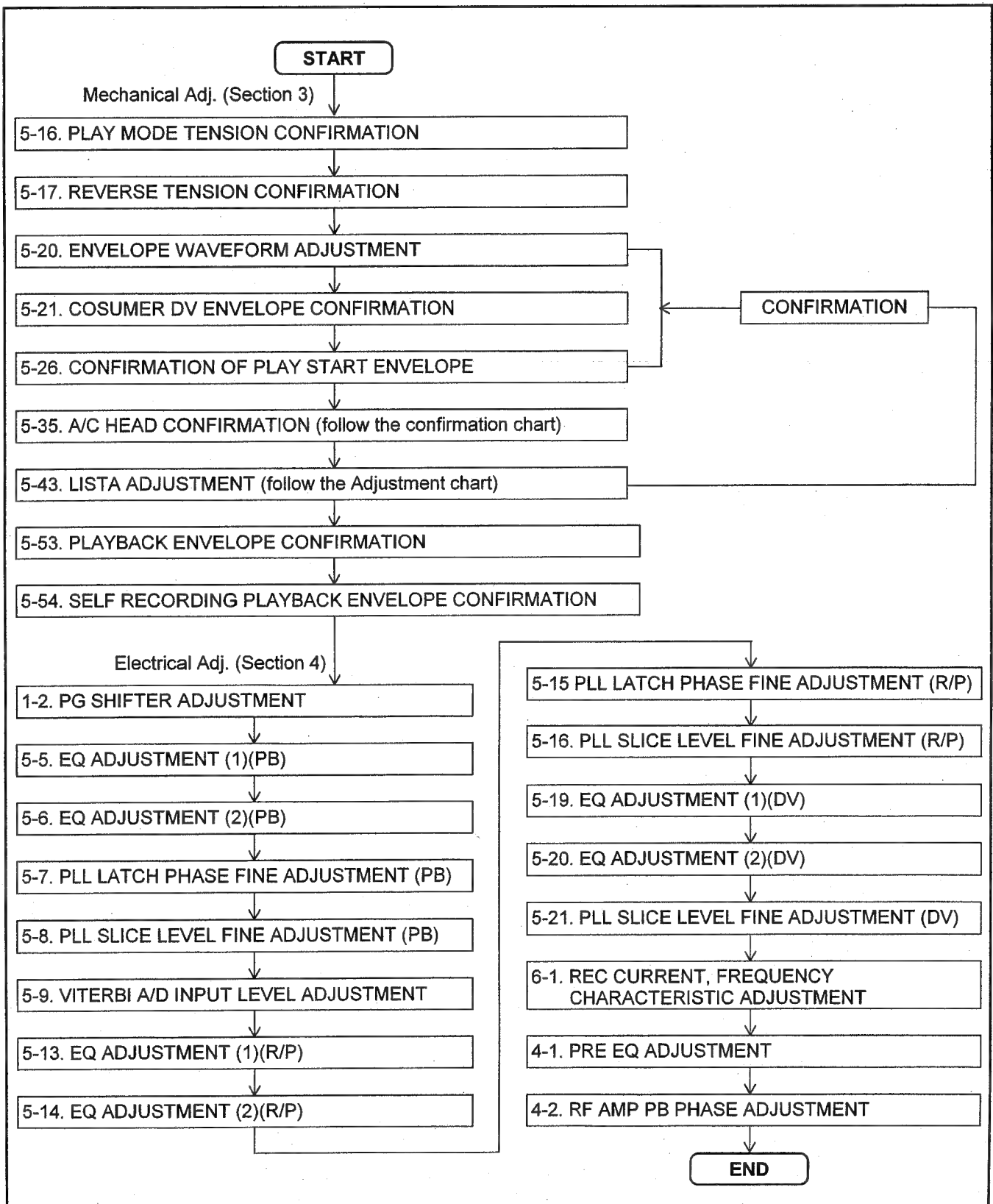


Fig. 6-1-6 Adjustment of T1 Guide

### 6-1-3. ADJUSTMENT FLOWCHART AFTER CYLINDER UNIT REPLACEMENT

**Note:** Please confirm the condition of Linearity before Head replacement. The number indicated in the below chart is that on the Service manual.



## 6-2. A/C Head Replacement

### 6-2-1. Replacement

※ Tools required:

Nut Driver (5.5m/m)(VFK1150)

Hex Driver (VFK1148)

Hex Wrench (VFK1190)

#### (Removal)

1. Remove the Top Panel (Refer to item [2-1. Removal of Top Panel]).
2. Remove the Bottom Panel (Refer to item [2-2. Removal of Bottom Panel]).
3. Disconnect the connector P1 on the AC HEAD I/F P.C.Board.
4. Disconnect the connector P30 on the MECHA I/F P.C.Board.
5. Loosen the hex screw (B) and remove the Nut (C). Hang off the Head Height Adjustment Spring and then remove the A/C Head Unit as shown in Fig. 6-2-1.

**Point:** Memorize the height of Nut (C) before removing the Nut (C).

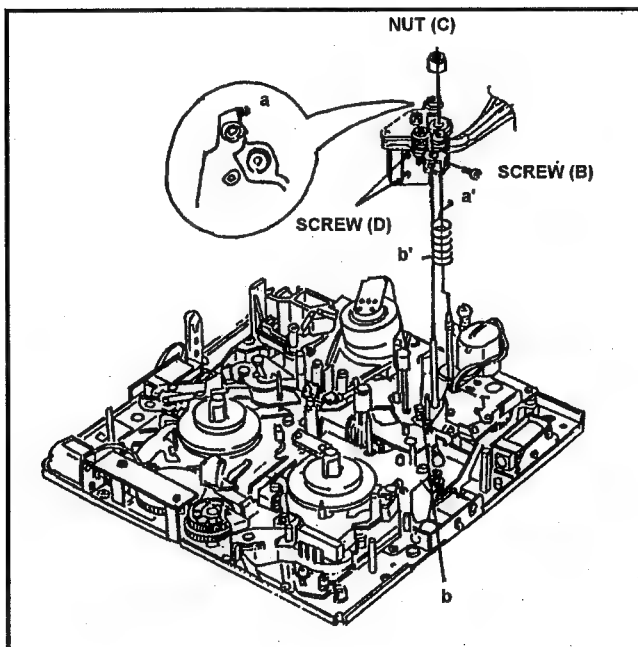


Fig. 6-2-1 Removal of A/C Head Unit

6. Remove the 2 screws (A), then remove the A/C Head from the A/C Head Plate as shown in Fig. 6-2-2.

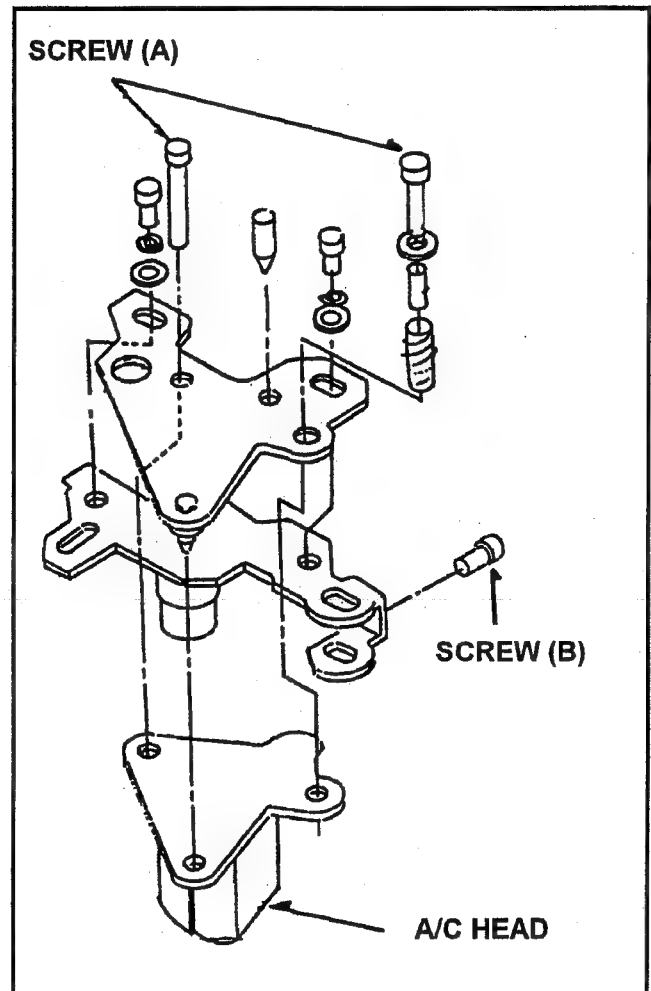


Fig. 6-2-2 Removal of A/C Head

7. Remove the Shield Cover by removing 2 screws (D) as shown in Fig. 6-2-1.
8. Unsolder the lead wires (When unsolder the lead wires, do not unsolder all at the same time).

#### (Installation)

1. Remove the Shield Case from the new A/C Head and solder the lead wires to the new A/C Head (Refer to Fig. 6-2-3).
2. Reinstall the shield case to the A/C Head.
3. Install the A/C Head to the A/C Head Plate by tightening 2 screws (A), then set the gap between the A/C Head and the A/C Head Plate to parallel.
4. Install the A/C Head Unit.
5. Hang on the Head Height Adjustment Spring and tighten the Nut (C).
6. Clean the surface of the A/C Head.



**Note:** After installation, Mechanical and Electrical adjustments should be performed and the hex screw (B) is kept loose until finishing the A/C Head Height Adjustment.

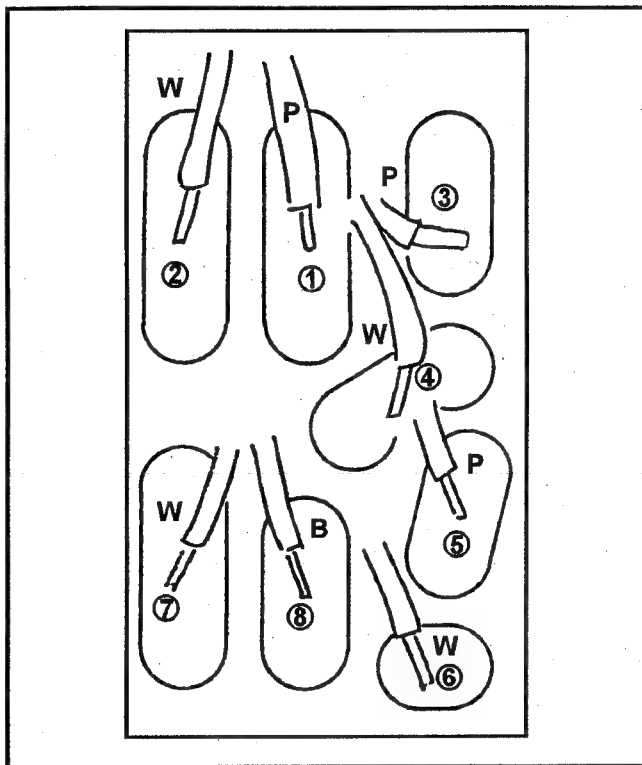
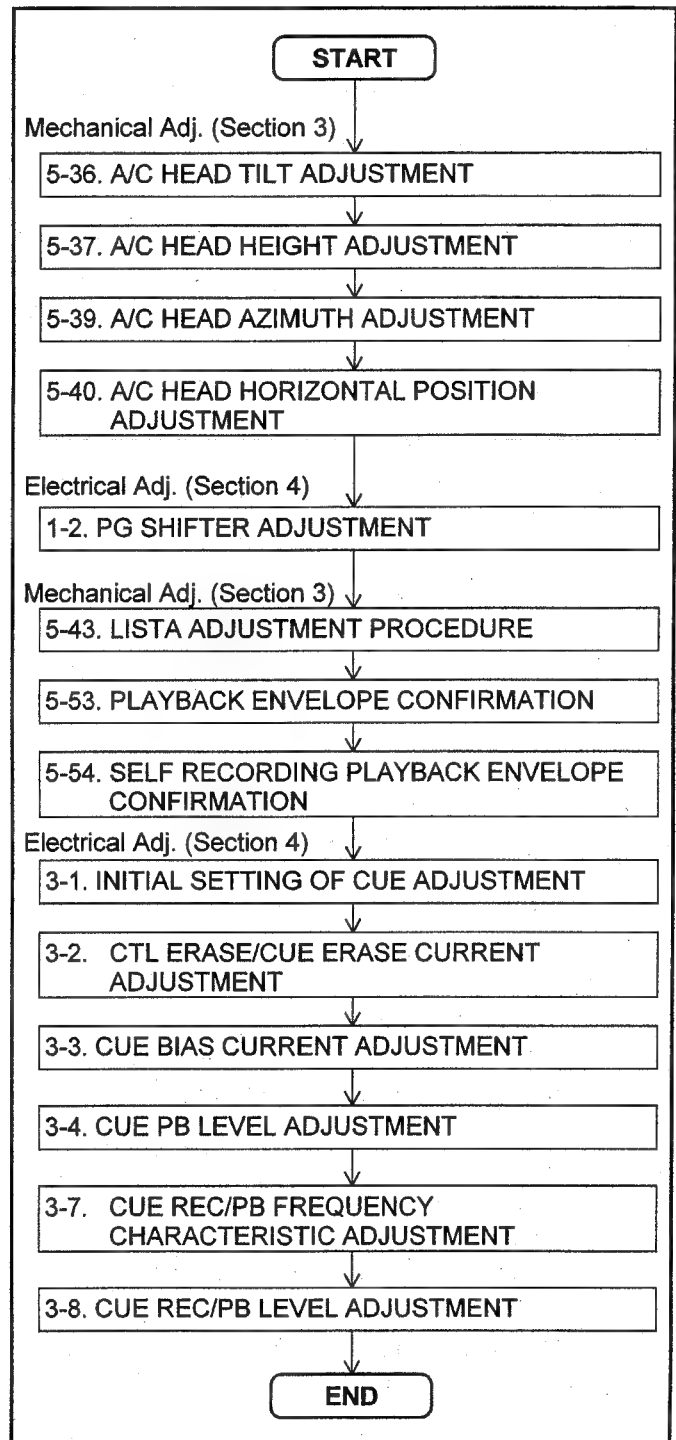


Fig. 6-2-3 Connection of A/C Head

A/C Head Side	Cable Color		Connector No.
1	PINK	YELLOW	P1
2	WHITE		
3	PINK	RED	
4	WHITE		
5	PINK	GREEN	
6	WHITE		P30
7	WHITE	YELLOW	
8	BLACK		

## 6-2-2. Adjustment Flowchart after A/C Head Replacetment

- After replacing the A/C Head, please perform the following steps.



### 6-3. Supply and Take up Reel Table Replacement

#### (Removal)

1. Remove the Top Panel (Refer to item [2-1. Removal of Top Panel]).
2. Remove the Front Loading Unit (Refer to item [2-4. Removal of Front Loading Unit]).
3. Press the iron core of Brake Solenoid to release the Reel Brake.
4. Pull out the supply and Take up Reel Table.

**Note:** Be careful when pull out or install the Reel Table not to damage the bearing inside the Reel Table.

#### (Installation)

1. Install the Reel Tables and reverse the previous steps.
2. After installation, Main Brake torque confirmation (Refer to item 5-4) should be performed.

#### 6-3-1. Supply and Take Up Reel Rotor Unit Replacement

#### (Removal)

1. Remove the Top Panel (Refer to item [2-1. Removal of Top Panel]).
2. Remove the Front Loading Unit (Refer to item [2-4. Removal of Front Loading Unit]).
3. Remove the Bottom Panel (Refer to item [2-2. Removal of Bottom Panel]).
4. Disconnect the connector P34 and P35 on the MECHA I/F P.C.Board as shown in Fig. 6-3-1.
5. Move the S1 post to loading direction by manual ejecting method until the position where the screw (C) can be removed as shown in Fig. 6-3-2.
6. Confirm the supply and Take Up Brake are not released.
7. Press the iron core of M stopper solenoid to release the M stopper.
8. Remove the 4 screws (C), (D) and (E) as shown in Fig. 6-3-2.
9. Remove the Supply and Take Up Reel Rotor Unit and Reel Outer Rail.

**Note:** Memorize the groove position of Reel Base in which the pin of Drive Arm Unit is inserted.

#### (Installation)

1. Let the Reel Outer Rail in the new Supply and Take Up Reel Rotor Unit.
2. Hang on the Reel Rotor Unit to the Reel Inner Rail and Install the Reel Rotor Unit so that the pin of Drive Arm Unit is matched with the groove position of Reel Base as shown in Figure 6-3-3.
3. Install the 4 screws (C), (D) and (E).
4. Confirm that the Reel Rotor Unit moves smoothly on the Rail by hand.
5. Move the Reel Rotor Unit to the front side by hand and pull up the iron core of M stopper solenoid to operate M stopper.
6. Set the unit in the unloading condition by turning the Emergency shaft counterclockwise.
7. Adjust the height of Cassette Height Pin (Refer to item 5-2).
8. Connect the Flexible Cable to Connector P34 and P35 on the MECHA I/F P.C.Board.
9. Adjust the Motor Torque Offset value (Refer to item 1-1 of section 4).
10. Confirm Main Brake Torque (Refer to item 5-4).
11. Confirm Tension value on playback mode (Refer to item 5-16).

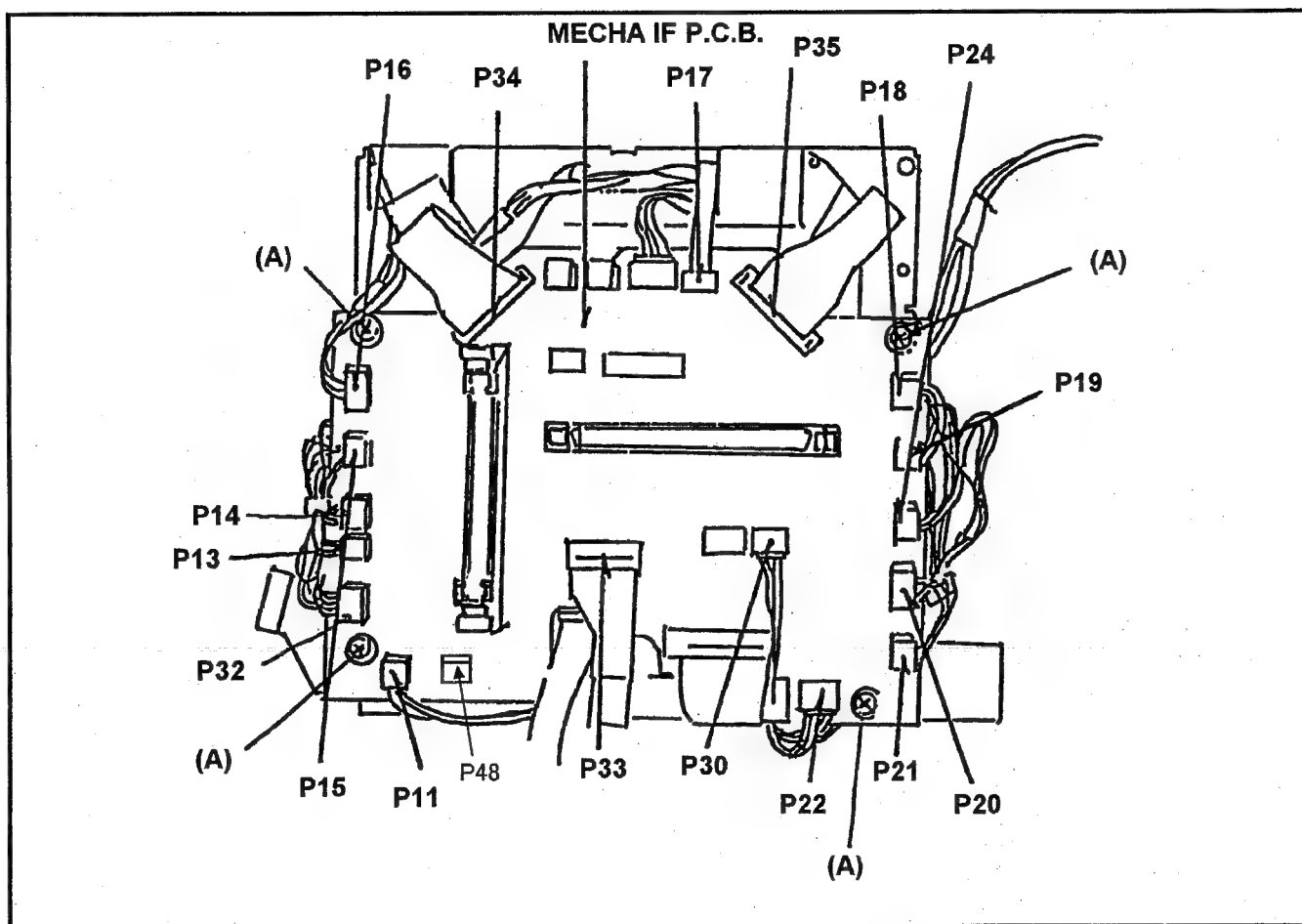


Fig. 6-3-1 Connection of MECHA I/F P.C.Board

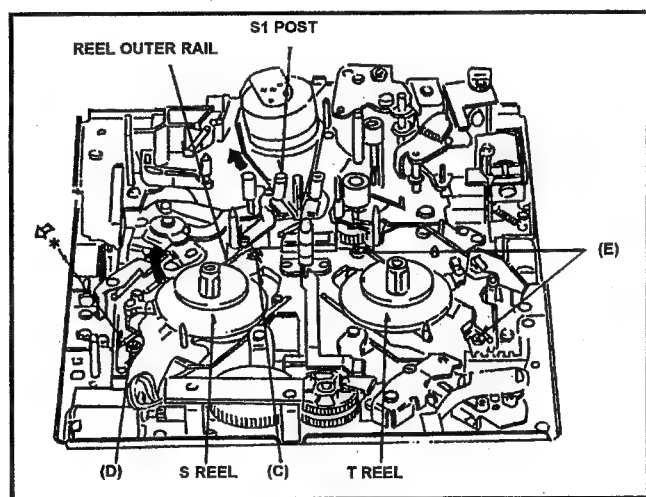


Fig. 6-3-2 Removal of S & T Reel Rotor Unit

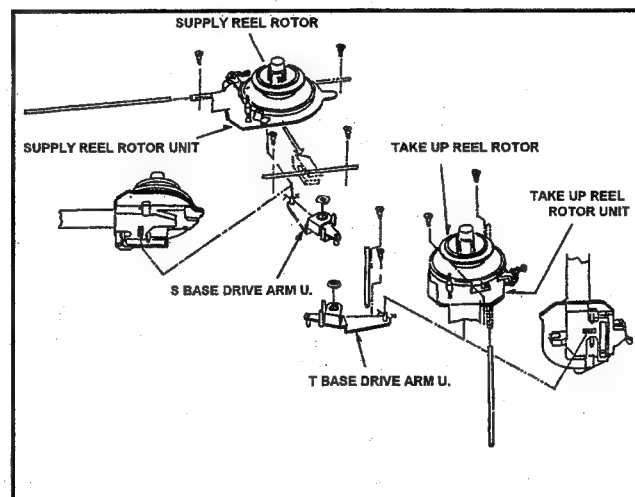


Fig. 6-3-3 Installation of S & T Reel Rotor Unit

## 6-4. Loading Motor Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Bottom Panel.
4. Disconnect the connector P21 on the MECHA I/F P.C.Board as shown in Fig. 6-3-1.
5. Remove the Pinch Solenoid Unit (Refer to item 6-8).
6. Remove the Pinch Solenoid Lever. (Refer to item 6-5).
7. Unscrew the screw (B), and remove the Emergency Shaft as shown in Fig. 6-4-1.
8. Unscrew the 2 screws (C) and remove the Loading Motor Neutral Unit as shown in Fig. 6-4-1.
9. Unscrew the 2 screws (D) and remove the Loading Motor Unit as shown in Fig. 6-4-1.

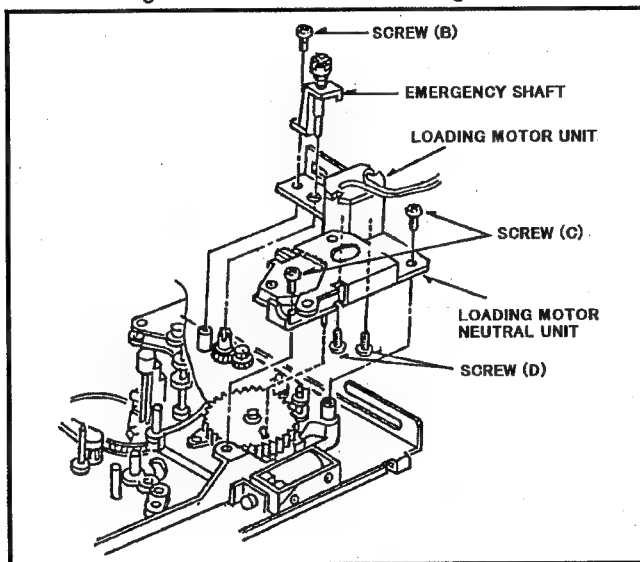


Fig. 6-4-1 Removal of Loading Motor Unit

### (Installation)

1. Install the new Loading Motor Unit to the Loading Motor Neutral Unit by tightening 2 screws (D).
2. Install the Loading Motor Neutral Unit by tightening the 2 screws (C) so that the pin of Mode SW Unit should be matched with the groove position of Main Cam Gear.
3. Install the Emergency Shaft by tightening the screw (B).
4. Install the Pinch Solenoid Unit. After installation, Pinch Solenoid Position adjustment is required. (Refer to item 5-3).

## 6-5. Pinch Arm Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Bottom Panel.
4. Disconnect the connector P20 on the MECHA I/F P.C.Board as shown in Fig. 6-3-1.
5. Remove the Pinch Solenoid Unit (Refer to item 6-8, then hang off the Pinch Solenoid Lever as shown in Figure 6-5-1.).
6. Remove the cut washer (A) and remove the Pinch Solenoid Lever as shown in Fig. 6-5-1.
7. Remove the cut washer (B) and remove the Pinch Arm Unit as shown in Fig. 6-5-1.

### (Installation)

1. Install the new Pinch Arm Unit and reverse the previous steps. After installation, Pinch Solenoid Position Adjustment is necessary (Refer to item 5-3).

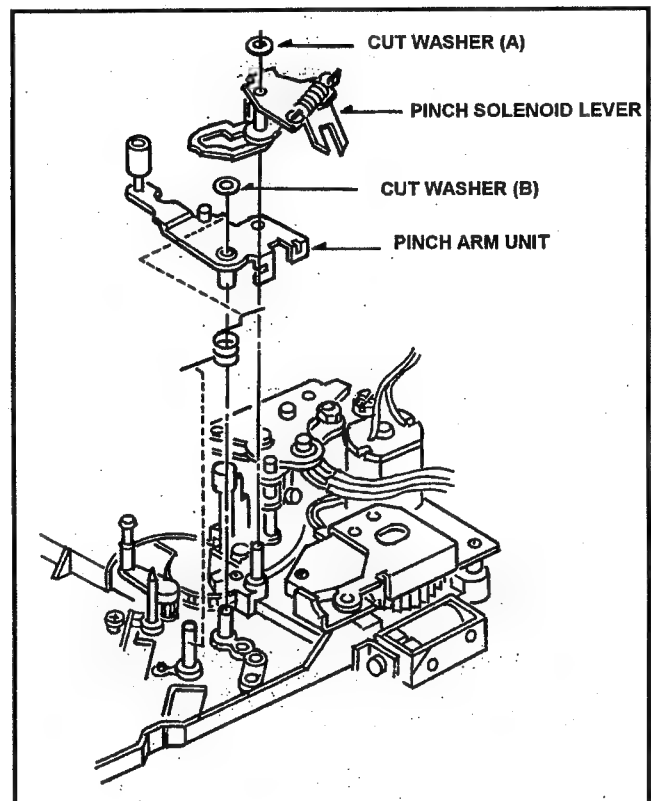


Fig. 6-5-1 Removal of Pinch Arm Unit

## 6-6. Supply and Take Up Brake Arm Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Press the iron core of Brake Solenoid for release the Brake.
4. Remove the cut washers (A) and remove the Supply and Take Up Brake Arm Unit as shown in Fig. 6-6-1.

### (Installation)

1. When install the new Brake Arm Unit, first hang on the Brake Arm Spring as shown in Fig. 6-6-1.
2. Reverse the previous steps.
3. Main Brake Torque confirmation is required (Refer to item 5-4).
4. Confirm the Tension value on the Playback mode (Refer to item 5-16).

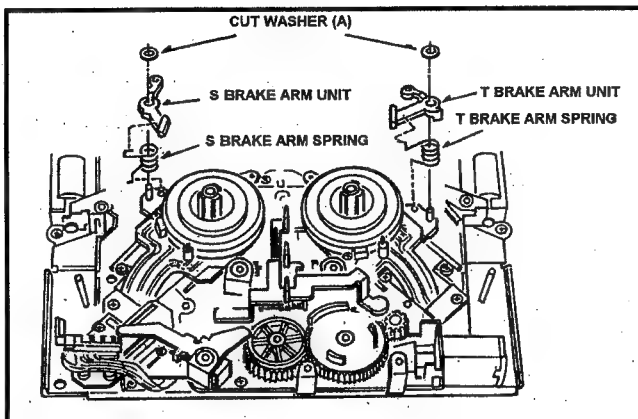


Fig. 6-6-1 Removal of S & T Brake Arm Unit

## 6-7. Mode Select Switch Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Bottom Panel.
4. Disconnect the connector P22 on the MECHA I/F P.C.Board as shown in Fig. 6-3-1.
5. Remove the Pinch Solenoid Unit and Loading Motor Neutral Unit (Refer to item 6-4).
6. Remove the screw (D) and remove the Mode Select Switch Unit from Loading Motor Neutral Unit as shown in Fig. 6-7-1.

### (Installation)

1. Install the new Mode Select Switch Unit and reverse the previous steps (Refer to item [6-4. Loading Motor Unit Replacement]).

**Note:** Be careful that the pin of Mode Switch Unit should be matched with the groove of Main Cam Gear.

2. After installing the Pinch Solenoid Unit, Pinch Solenoid Position adjustment is required (Refer to item 5-3).

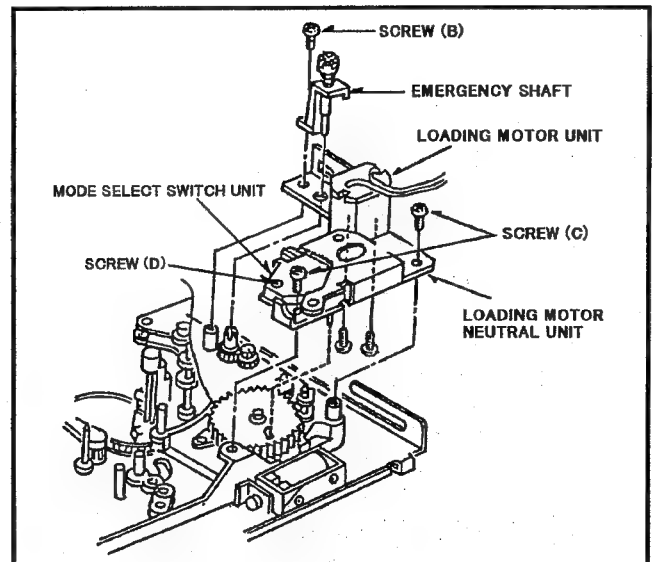


Fig. 6-7-1 Removal of Mode Select Switch Unit

## 6-8. Pinch Solenoid Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Bottom Panel.
4. Disconnect the connector P20 on the MECHA I/F P.C.Board as shown in Fig. 6-3-1.
5. Unscrew the 2 screws (A) and remove the Pinch Solenoid Unit as shown in Fig. 6-8-1.
6. Unscrew the 2 screws (B) and remove the Pinch Solenoid Angle as shown in Fig. 6-8-1.
7. Unscrew the 2 screws (C) and remove the Pinch Solenoid from the Pinch Solenoid Base.

### (Installation)

1. Install the new Pinch Solenoid and reverse the previous steps.
2. After installation, Pinch Solenoid Position Adjustment is required (Refer to item 5-3).

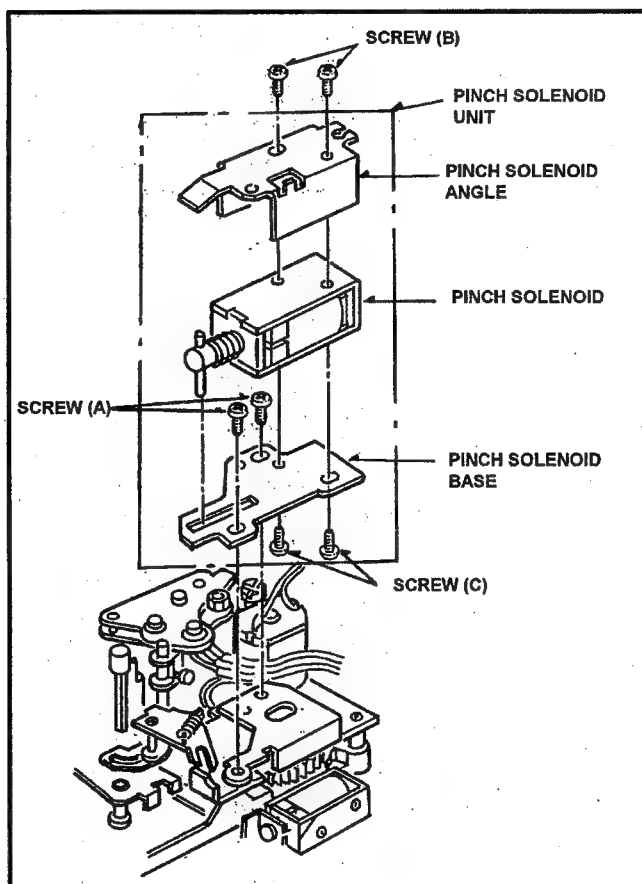


Fig. 6-8-1. Removal of Pinch Solenoid

## 6-9. Supply Brake Solenoid Replacement and Adjustment

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Bottom Panel.
4. Disconnect the connector P15 on the MECHA I/F P.C.Board.
5. Unscrew the 2 screws (A) and remove the Supply Brake Solenoid Base Unit as shown in Fig. 6-9-1.
6. Unscrew the 2 screws (B) and remove the Supply Brake Solenoid from the Supply Brake Solenoid Base Unit as shown in Fig. 6-9-1.

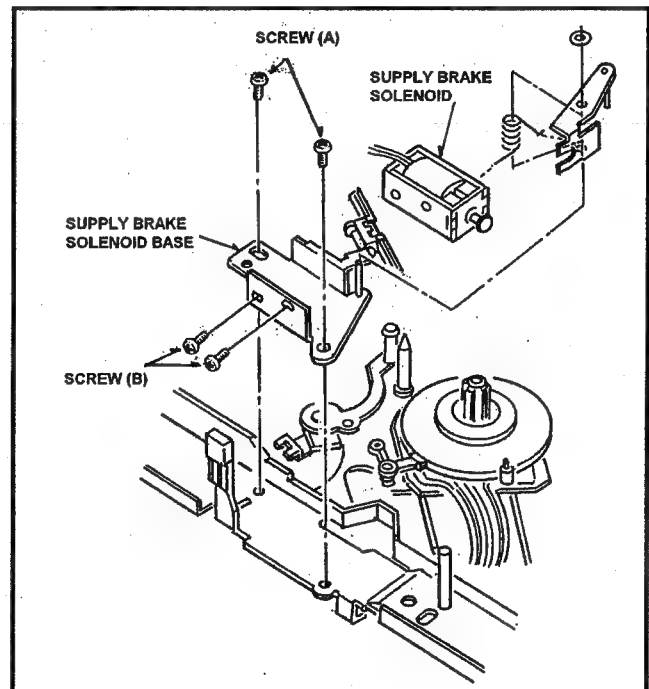


Fig. 6-9-1 Removal of Supply Brake Solenoid

### (Installation)

1. Install the new Supply Brake Solenoid and reverse the previous steps.
2. After installation, position adjustment should be performed as follows.

#### (Adjustment)

1. Place the reels in the M cassette size position.
2. Observe the clearance (A) between the Brake pad and it's turntable shown in Fig. 6-9-2 and make sure that it is within 0.2 to 0.5mm.
3. If not, loosen the 2 screws (A) shown in Fig. 6-9-1 and move the Brake Solenoid Unit to the arrow direction so that the clearance (A) is within specification as shown in Fig. 6-9-2. Then tighten the 2 screws (A).
4. After adjustment, change the reel position to S and L cassette size, and confirm that the clearance (A) is within specification.

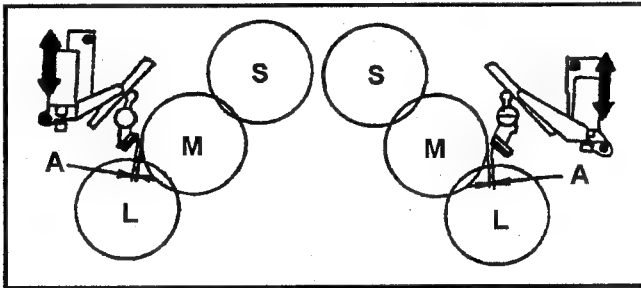


Fig. 6-9-2 Brake Solenoid Adjustment

## 6-10. Take Up Brake Solenoid Replacement and Adjustment

#### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Bottom Panel.
4. Disconnect the connector P18 on the MECHA I/F P.C.Board.
5. Unscrew the 2 screws (A) and remove the Take Up Brake Solenoid Base Unit as shown in Fig. 6-10-1.
6. Unscrew the 2 screws (B) and remove the Take Up Brake Solenoid from the Take Up Brake Solenoid Base Unit as shown in Fig. 6-10-1.

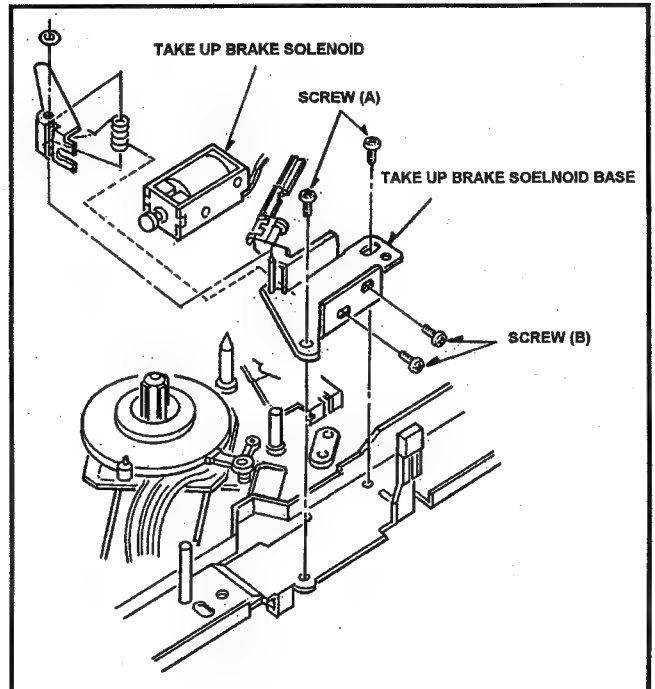


Fig. 6-10-1 Removal of Take Up Brake Solenoid

#### (Installation)

1. Install the new Take up Brake Solenoid and reverse the previous steps.
2. After installation, position adjustment should be performed as follows.

#### (Adjustment)

1. Place the reels in the M cassette size position.
2. Observe the clearance (A) between Brake pad and it's turntable shown in Fig. 6-9-2 and make sure that it is within 0.2 to 0.5mm.
3. If not, loosen the 2 screws (A) shown in Fig. 6-10-1 and move the Brake Solenoid Unit to the arrow direction so that the clearance (A) is within specification as shown in Fig. 6-9-2. Then tighten the 2 screws (A).
4. After adjustment, change the reel position to S and L cassette size, and confirm that the clearance (A) is within specification.

## 6-11. MIC Rail Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Bottom Panel.
4. Disconnect the connector P17 on the MECHA I/F P.C.Board.
5. Remove the MIC Drive Rev Spring at the MIC Rail Unit side as shown in Fig. 6-11-1.
6. Unscrew the 3 screws (A) and remove the MIC Rail Unit as shown in Fig. 6-11-1.

### (Installation)

1. Install the new MIC Rail Unit and reverse the previous steps.
2. Confirm that the M and L cassettes touch to the MIC Rail Unit correctly.

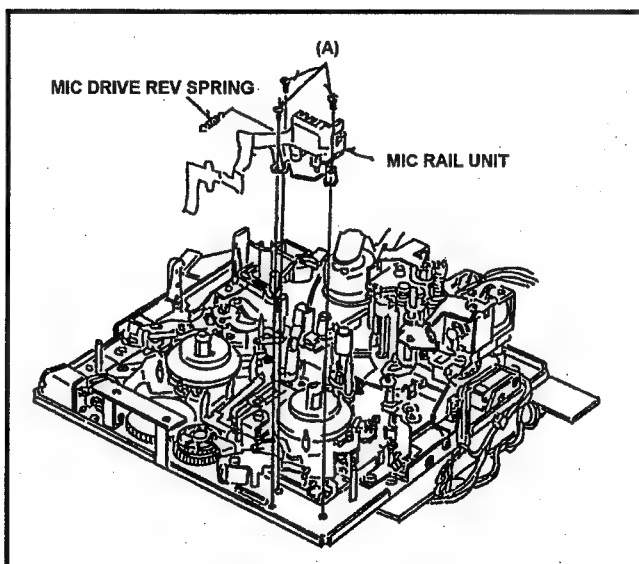


Fig. 6-11-1 Removal of MIC Rail Unit

## 6-12. S1 Post Loading Arm Unit Replacement and Adjustment

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the S5 Post Base Unit (Refer to item 6-17).
4. Remove the Tension Arm Unit (Refer to item 6-18).
5. Unscrew the screw (A) and remove the S1 Post from Loading Rail as shown in Fig. 6-12-1.
6. Remove the E-Ring (B) and remove the S1 Loading Arm Unit as shown in Fig. 6-12-1.

### (Installation)

1. Install the new S1 Loading Arm Unit and reverse the previous steps. When install the S1 Loading Arm Unit, S1 Post Loading Arm Unit Phase Adjustment should be performed as follows.

### (Adjustment)

When install the S1 Post Loading Arm Unit, the hole (A) should be matched with the hole (B) as shown in Fig. 6-12-1.

2. After installation, confirm that the S1 Post moves smoothly on the Loading Rail. And Tension Arm Adjustment (Refer to item 5-7), Post Height Pre-Adjustment (Refer to item 5-5) and Linearity Adjustment (Refer to item 5-18 [Tape Pass Adjustment Procedure]) should be performed.



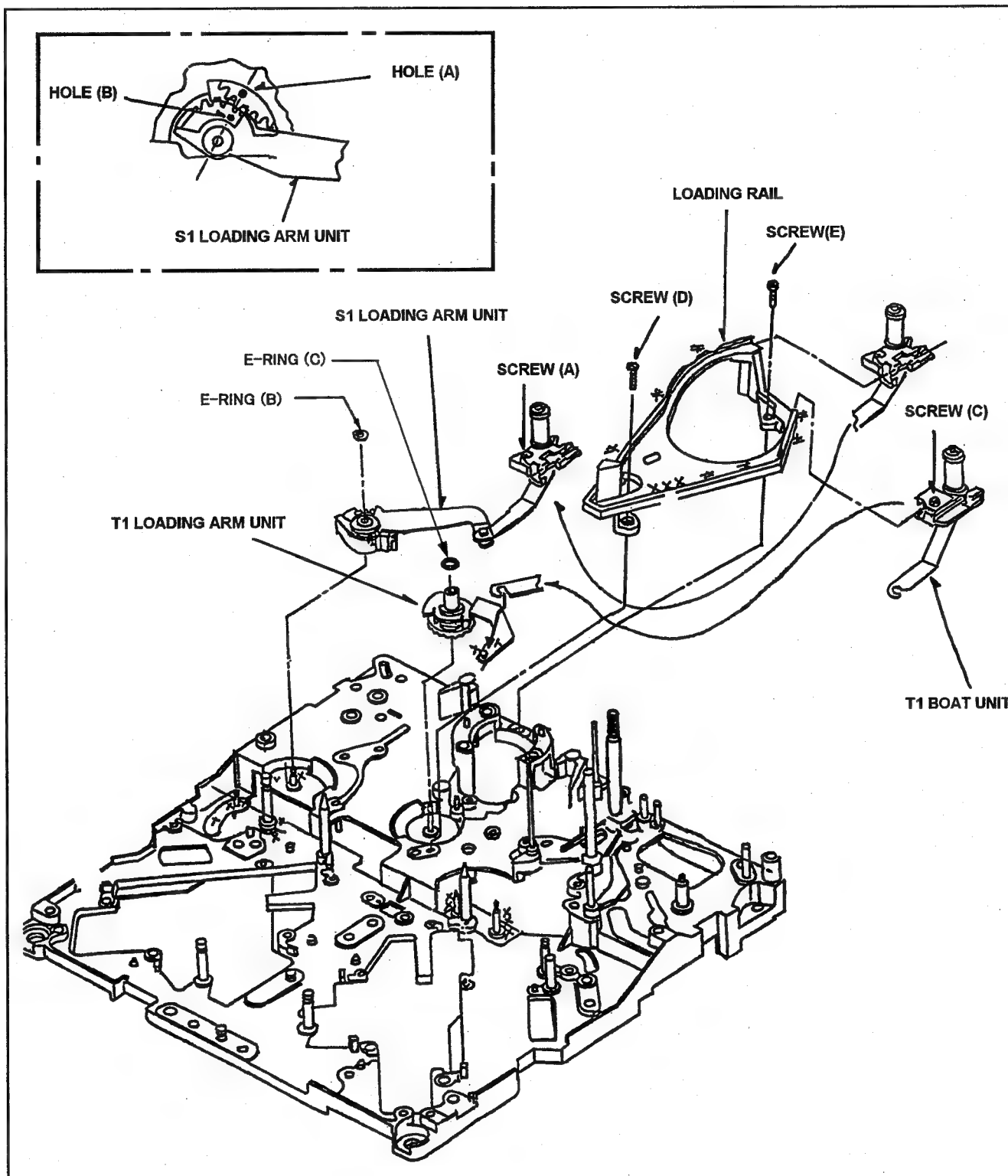


Fig. 6-12-1 Removal of S1 Post Loading Arm Unit

## 6-13. T1 Boat Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Unscrew the screw (C) and remove the T1 Post from the Loading Rail as shown in Fig. 6-12-1.
4. Hang off the T1 Boat Unit from the T1 Loading Arm Unit as shown in Fig. 6-12-1.

### (Installation)

1. Install the new T1 Boat Unit and reverse the previous steps.
2. After installation, confirm that the T1 Post moves smoothly on the Loading Rail.
3. Linearity adjustment (Refer to item 5-18 [Tape Pass Adjustment Procedure]) should be performed.

## 6-14. T1 Loading Arm Unit Replacement and Adjustment

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Cylinder Unit (Refer to item 6-1).
4. Move the T1 Post to loading direction by manual ejecting method until the position where the screw (D) can be removed as shown in Fig. 6-12-1.
5. Unscrew the 2 screws (A) and (C), then remove the S1 and T1 Post from the Loading Rail as shown in Fig. 6-12-1.
6. Unscrew the 2 screws (D) and (E), then remove the Loading Rail as shown in Fig. 6-12-1.
7. Remove the E-Ring (C) and remove the T1 Loading Arm Unit as shown in Fig. 6-12-1.

### (Installation)

1. Install the T1 Loading Arm Unit and reverse the previous steps. After installation, Phase Adjustment should be performed as follows.

**Note:** This replacement should be performed simultaneously with Replacement of Cylinder Unit. It is convenient for Replacement of T1 Loading Arm Unit.

### (Adjustment)

1. When install the T1 Loading Arm Unit, the hole (A) should be matched with the hole (B) as shown in Fig. 6-14-1.
2. After installation, confirm that the S1 and T1 Post move smoothly on the Loading Rail.
3. Post Height Pre-adjustment (Refer to item 5-5) and Linearity Adjustment (Refer to item 5-18 [Tape Pass Adjustment Procedure]) should be performed.

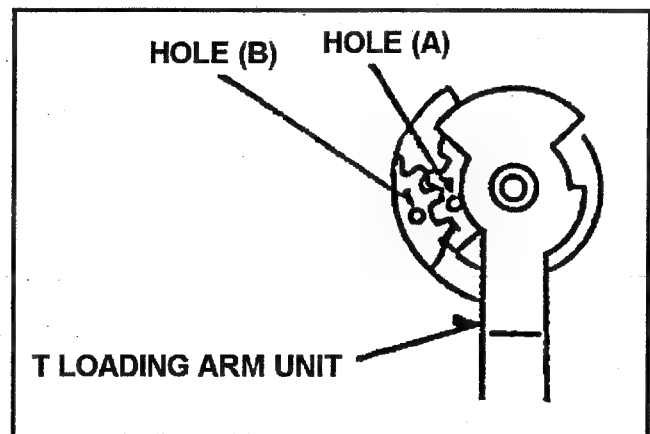


Fig. 6-14-1 Phase Adjustment of T1 Loading Arm Unit

## 6-15. Cleaner Solenoid Replacement and Adjustment

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Disconnect the connector P48 on the MECHA I/F P.C.Board.
4. Unscrew the 2 screws (A) and remove the Cleaner Solenoid Unit as shown in Fig. 6-15-1.
5. Unscrew the 2 screws (B) and remove the Cleaner Solenoid as shown in Fig. 6-15-1.

### (Installation)

1. Install the new Cleaner Solenoid and reverse the previous steps.
2. After installation, Cleaner Solenoid Position Adjustment should be performed as follows.

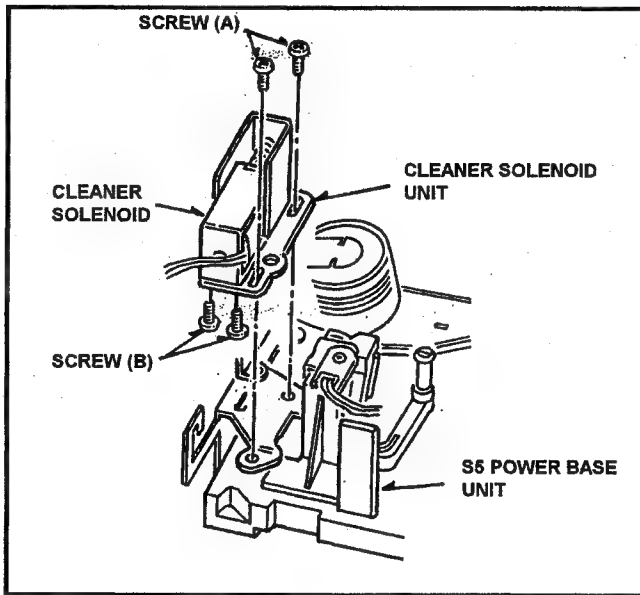


Fig. 6-15-1 Removal of Cleaner Solenoid

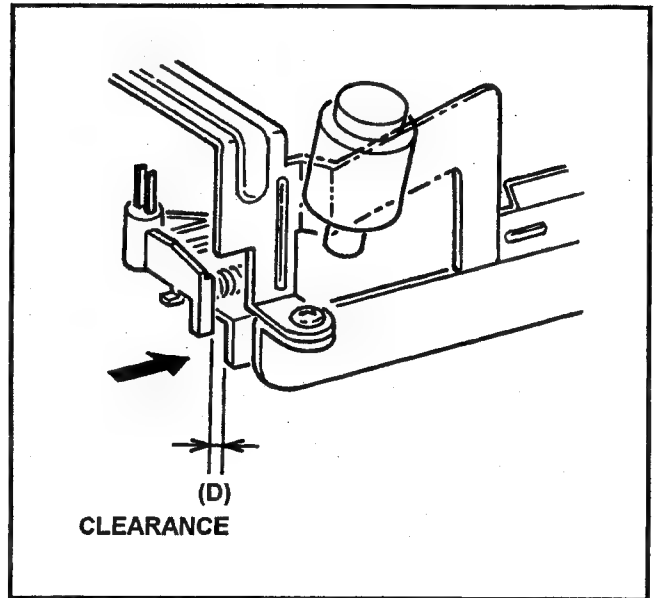


Fig. 6-15-2 Cleaner Solenoid Position Adjustment

### 6-15-1. Cleaner Solenoid Position Adjustment

※ Tools Required : Eccentric Driver (VFK0357)

1. Press the iron core of Cleaner Solenoid.
2. Observe the clearance (D) between the Cleaning Arm Unit and the Cleaner Base Plate and make sure that it is within 0.5 to 0.7mm as shown in Fig. 6-15-2.
3. If not, loosen the 2 screws (A) and move the Cleaner Solenoid Unit to the arrow direction (C⇌C) by the Eccentric Driver so that the clearance (D) is within specification. Then tighten the 2 screws (A).
4. After adjustment, confirm as follows.
5. Press the iron core of Cleaner Solenoid and release it. Confirm that the Cleaning Roller returns to its original position.
6. Press the iron core of the Cleaner Solenoid and rotate the Cylinder by hand. Confirm that the Cleaner Roller rotates simultaneously.

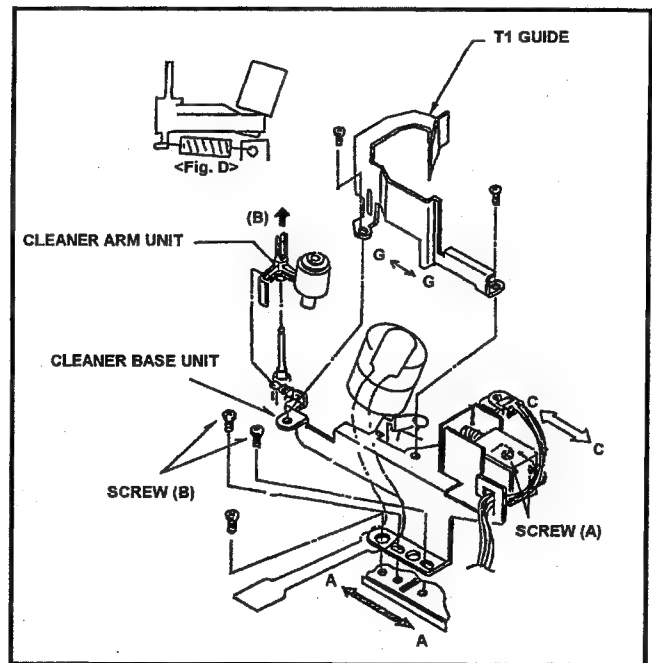


Fig. 6-15-3 Cleaner Solenoid Position Adjustment

**Note:** If the Cleaner Base Plate is moved, Cleaner Roller Position Adjustment should be performed.

## 6-15-2. Cleaner Roller Position Adjustment

※ Tools Required : Eccentric Driver (VFK0357)

1. Observe the clearance (A) between the Cleaner Roller and the Cylinder Unit and make sure that it is within 1.0 to 1.2mm as shown in Fig. 6-15-4.
2. If not, loosen the 2 screws (B) and move the Cleaner Base Plate to the arrow direction (A⇌A) by the Eccentric Driver (refer to Fig. 6-15-3) so that the clearance (A) is within specification. Then tighten the 2 screws (B).

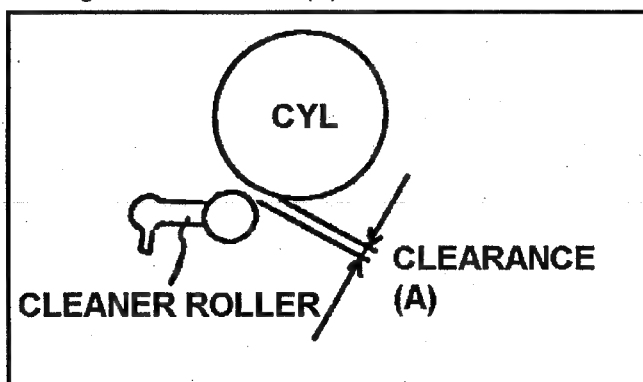


Fig. 6-15-4 Cleaner Roller Position Adjustment

## 6-16. Reel Drive Motor Unit Replacement

### (Removal)

1. Remove the Top Cover.
2. Remove the Front Loading Unit.
3. Disconnect the connector P16 on the MECHA I/F P.C.Board.
4. Unscrew the 2 screws (A) and remove the Reel Drive Sensor P.C.Board as shown in Fig. 6-16-1.
5. Unscrew the 2 screws (B) and remove the Reel Drive Motor Unit as shown in Fig. 6-16-1.

### (Installation)

1. Install the new Reel Drive Motor Unit and reverse the previous steps.

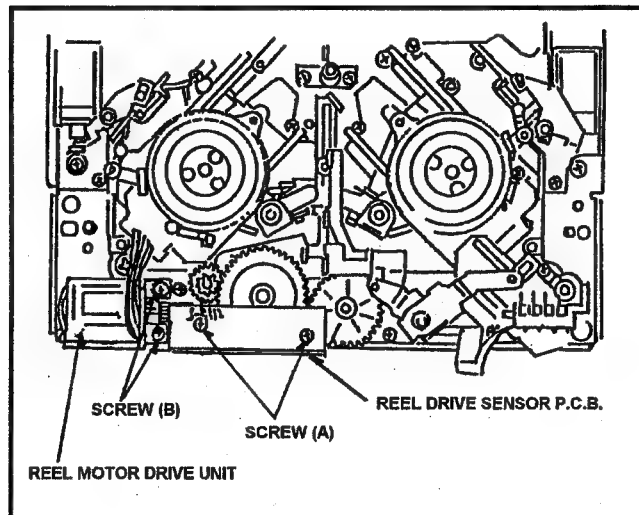


Fig. 6-16-1 Removal of Reel Drive Motor Unit

## 6-17. S5 Post Base Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Unscrew the screw (A) and remove the S5 Post Base Unit as shown in Fig. 6-17-1.

### (Installation)

1. Install the S5 Post Base Unit and reverse the previous steps. The installed position of S5 Post Base Unit is shown in Fig. 6-17-1.
2. After installation, Post Height Pre-adjustment (Refer to item 5-5) and Linearity Adjustment (Refer to item 5-18 [Tape Pass Adjustment Procedure]) should be performed.

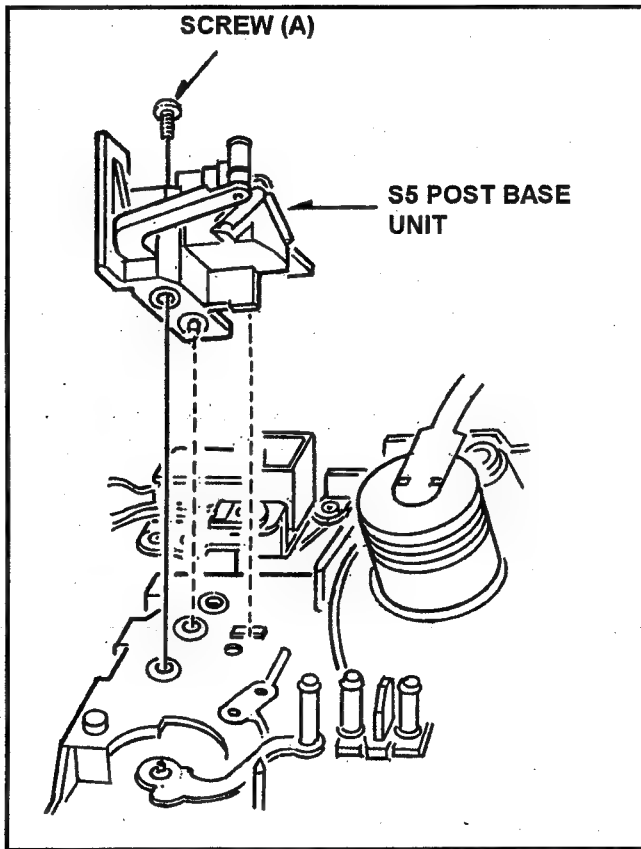


Fig. 6-17-1 Removal of S5 Post Base Unit

## 6-18. Tension Arm Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Cut Washer (A) and hang off the Tension Reg. Spring, then remove the Tension Arm Unit as shown in Fig. 6-18-1.

### (Installation)

1. Install the new Tension Arm Unit and reverse the previous steps.
2. After installation, Tension Arm Adjustment should be performed according to the following steps.

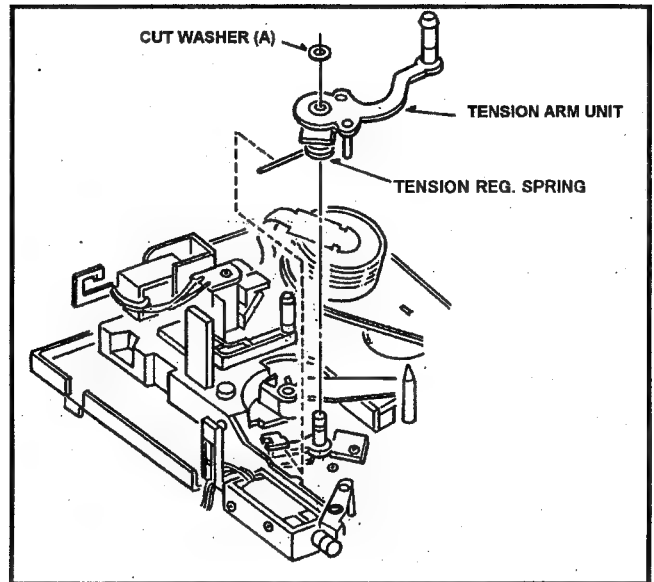
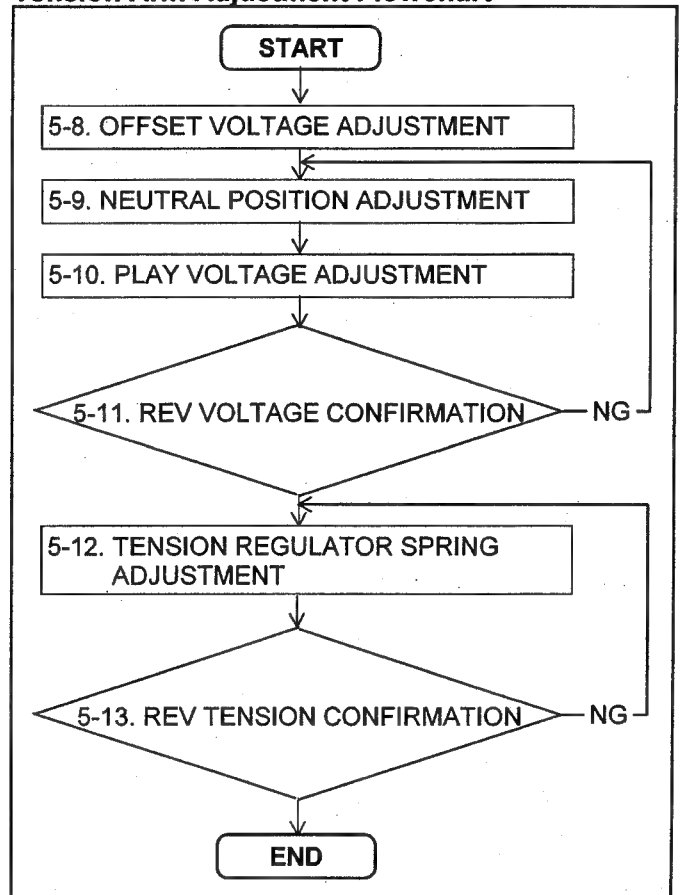


Fig. 6-18-1 Removal of Tension Arm Unit

### Tension Arm Adjustment Flowchart



## 6-19. Main Cam Gear Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the Pinch Solenoid Unit (Refer to item 6-8) and Loading Motor Neutral Unit (Refer to item 6-4).
4. Remove the Main Cam Gear as shown in Fig. 6-19-1.

### (Installation)

1. Install the Main Cam Gear so that the pin of Main Cam Arm Unit (\*) should be matched with the groove position of Main Cam Gear as shown in Fig. 6-19-1.
2. Reverse the previous steps.
3. After installation, Pinch Solenoid Position Adjustment is required (Refer to item 5-3).

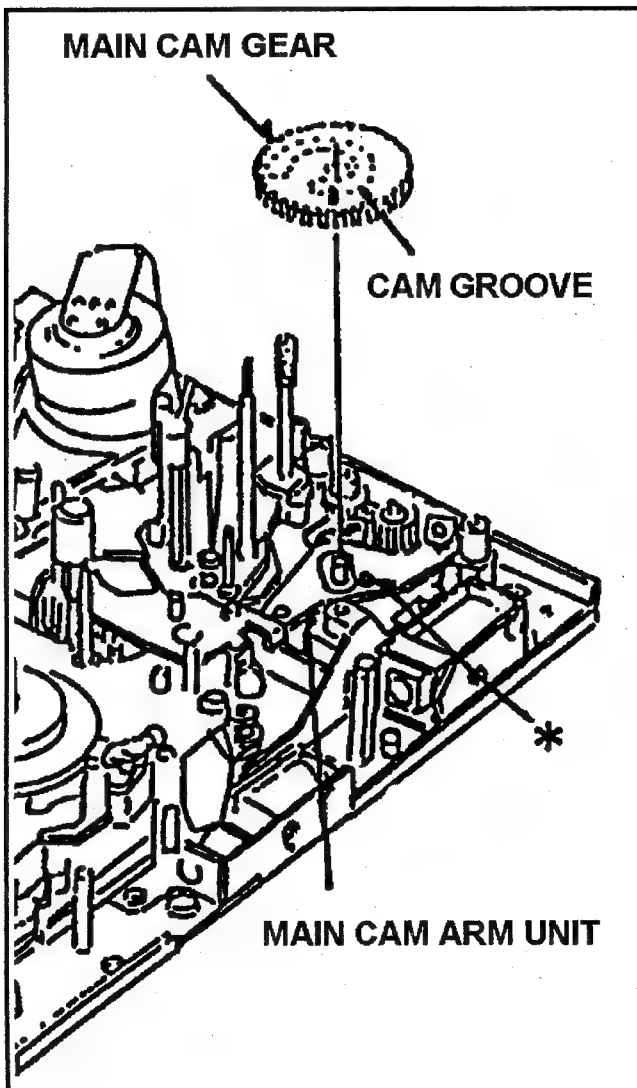


Fig. 6-19-1 Removal of Main Cam Gear

## 6-20. M-Stopper Solenoid Replacement And Adjustment

### (Removal)

1. Remove the Top Cover.
2. Remove the Front Loading Unit.
3. Remove the connector P24 on the MECHA I/F P.C.Board.
4. Unscrew the 4 screws (A) and (B) and remove the M-Stopper Solenoid as shown in Fig. 6-20-1.

### (Installation)

1. Install the new M-Stopper Solenoid and reverse the previous steps.
2. After installation, Position Adjustment should be performed as follows.

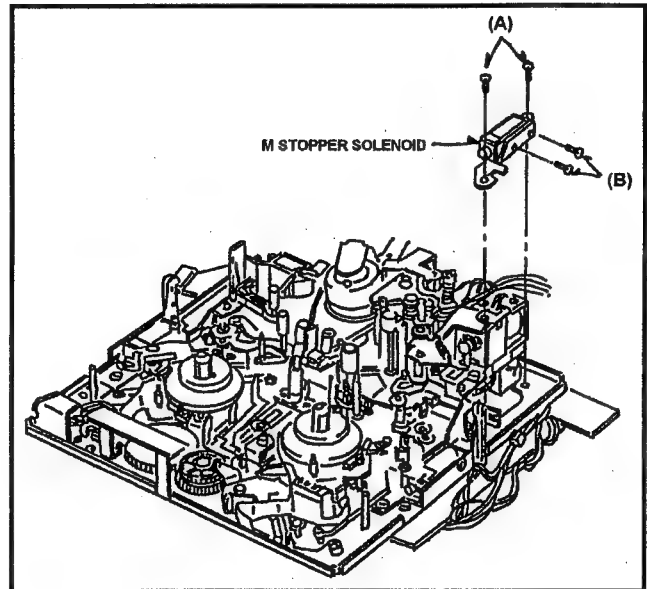


Fig. 6-20-1 Removal of M-Stopper Solenoid

### (Adjustment)

1. Place the reels in the L size position.
2. Push the iron core of M-Stopper Solenoid by hand.
3. Observe the clearance (A) between the MECHA Chassis and the M-Stopper and make sure that it is within 1.1 to 1.3mm as shown in Fig. 6-20-2.
4. If not, loosen the 2 screws (A) and adjust the position of M-Stopper Solenoid so that the clearance (A) is within specification. Then tighten the 2 screws (A).

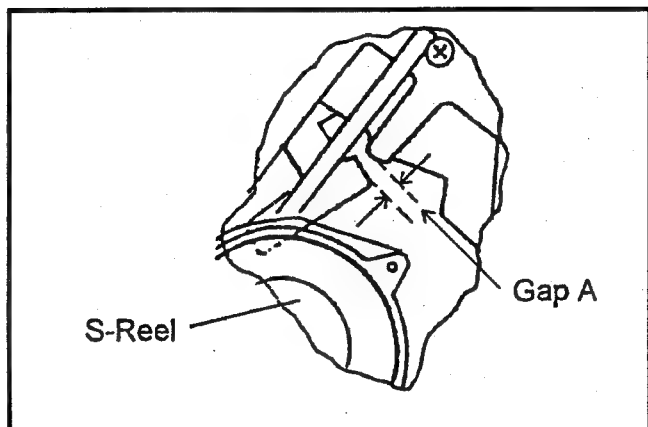


Fig. 6-20-2 M-Stopper Solenoid Adjustment

## 6-21. L-M Release Angle Unit Replacement

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Unscrew the 2 screws (A) and remove the L-M Release Angle Unit as shown in Fig. 6-21-1.

### (Installation)

1. Install the new L-M Release Angle Unit and reverse the previous steps.

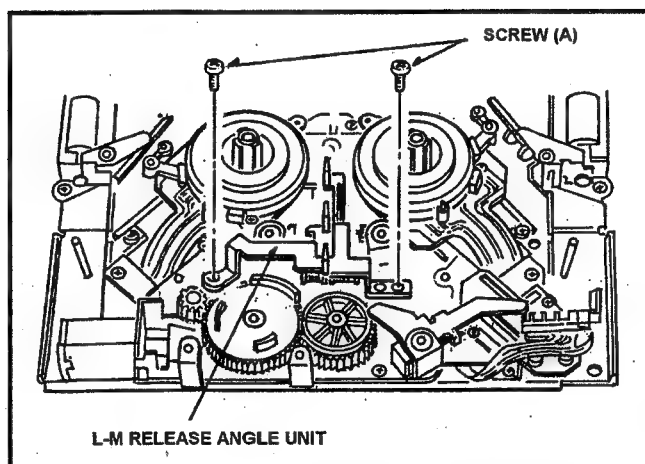


Fig. 6-21-1 Removal of L-M Release Angle Unit

## 6-22. Slide Rod Unit Replacement and Adjustment

### (Removal)

1. Remove the Top Panel.
2. Remove the Front Loading Unit.
3. Remove the L-M Release Angle Unit. (Refer to item 6-21).
4. Remove the Reel Drive Sensor P.C.Board (Refer to item 6-16).
5. Remove the Cut Washer (A) and remove the Reel Drive Cam Gear as shown in Fig. 6-22-1.
6. Remove the Cut Washer (B) and remove the MIC Drive Arm Unit as shown in Fig. 6-22-1.
7. Remove the Cut Washer (C) and remove the MIC Geneva Gear as shown in Fig. 6-22-1.
8. Remove the Cut Washer (D) and remove the Reel Drive Arm Unit as shown in Fig. 6-22-2.
9. Remove the Supply and Take Up Reel Rotor Unit (Refer to item 6-3-1).
10. Remove the 2 Cut Washers (E) and remove the Supply and Take Up Base Drive Arm Unit.
11. Remove the 2 Cut Washers (F) and remove the Slide Rod Unit.

### (Installation)

1. Install the new Slide Rod Unit and reverse the previous steps.
2. When install the Reel Drive Cam Gear and MIC Geneva Gear, Phase Adjustment should be performed as follows.

### (Adjustment)

1. Install the MIC Geneva Gear to the Chassis.
2. Place the Reels in the M-Size position by hand.
3. Install the MIC Drive Arm Unit.
4. Place the MIC SW at the front position on the MIC Rail Unit (the nearest portion to the reel) by rotating the MIC Geneva Gear. Then the MIC Geneva Gear should be positioned as shown in Fig. 6-22-3.

**Note:** The protrusion of MIC DRIVE Arm Unit is positioned as shown in Fig. 6-22-3.

5. Install the Reel Drive Cam Gear so that the hole of Reel Drive Cam Gear should be matched with the hole of MIC Geneva Gear as shown in Fig. 6-22-3.
6. Install the Cut Washer (A), (B) and (C) as shown in Fig. 6-22-1.

### ※ Point of Adjustment

- 1) Reel in the M-Size position.
- 2) MIC SW at the front position of MIC Rail Unit.
- 3) Protrusion of MIC Drive Arm Unit is positioned as shown in Fig. 6-22-3.
- 4) Holes between Reel Drive Cam Gear and MIC Geneva Gear are matched.

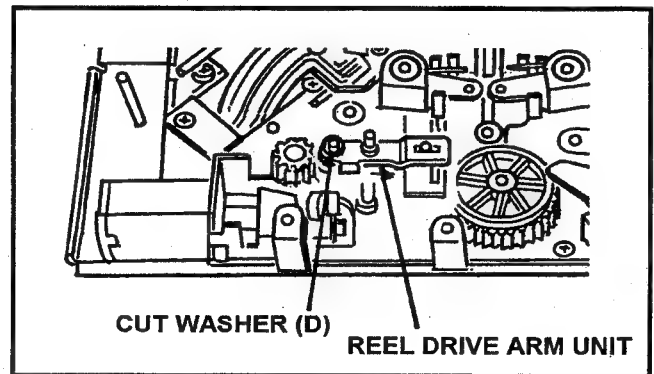


Fig. 6-22-2 Removal of Reel Drive Arm Unit

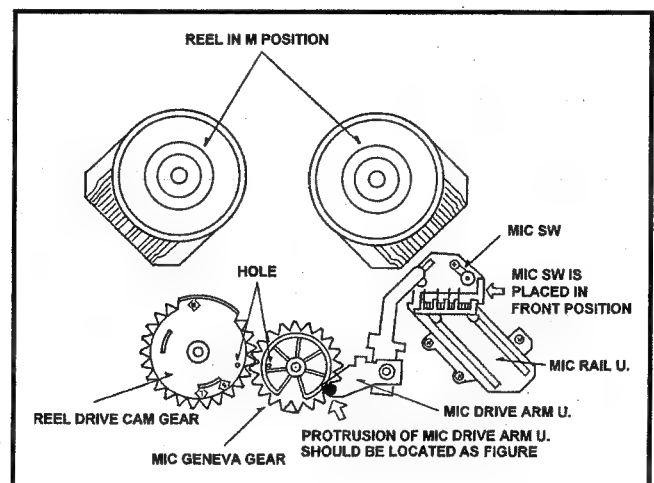


Fig. 6-22-3 Gear Phase Adjustment

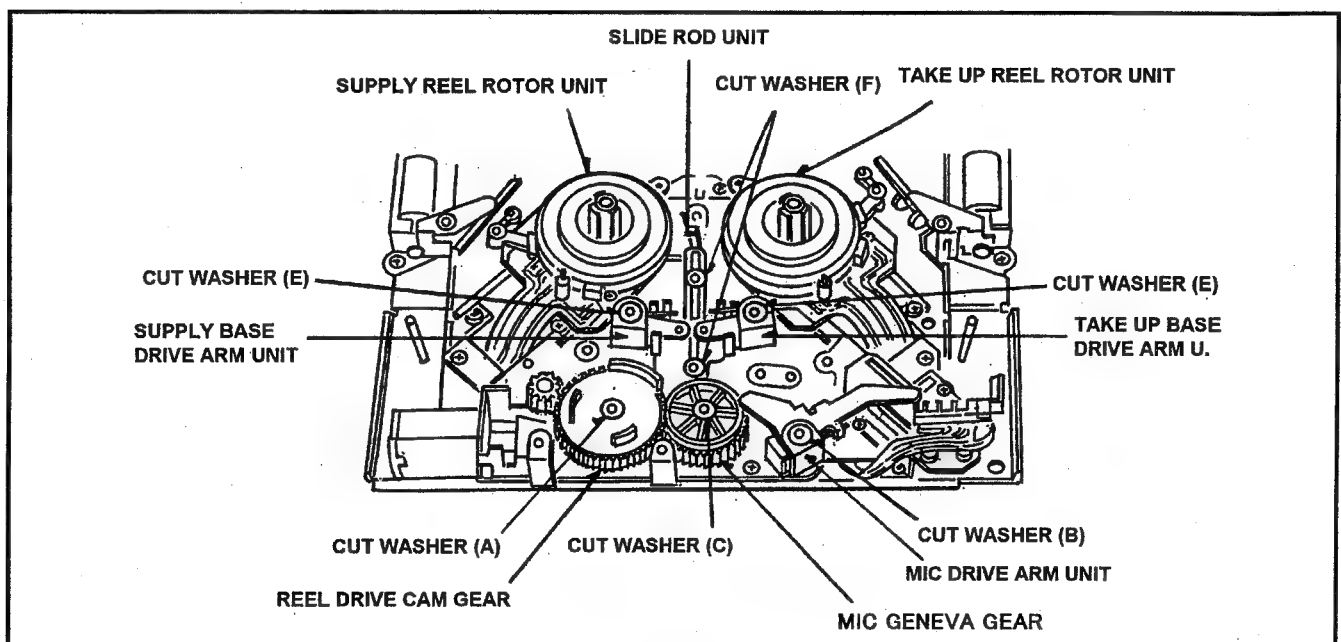


Fig. 6-22-1 Removal of Slide Rod Unit



## 6-23. T4 Post Phase Adjustment

1. Confirm that the hole (B) of T4 connection Gear is matched with the hole of T4 post as shown in Fig. 6-23-1.
2. Confirm that the portion (C) of T4 connection Gear and the hole (A) are located as shown in Fig. 6-23-1.

**Note:** These confirmations should be performed in unloading condition.

3. If not, adjust the phase of T4 post according to the above procedure.

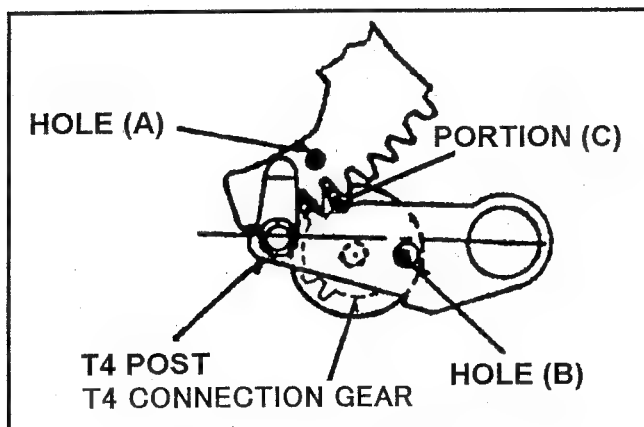


Fig. 6-23-1 Phase of T4 Post

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Cassette Compartment Unit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN <sup>V17726+V17727</sup>	78	VSD9606M502A	C7TRB0001
AJ-D650E <sup>V18115+V18116</sup>	51	VSD9612MJ01A	C7TRA0001
AJ-D640E " "	51	VSD9612MJ01A	C7TRA0001

#### Cassette Compartment Assembly

Symptom : 1). M or L cassette may not be inserted.  
 2). Cassette tape may not be ejected.  
 3). When the L cassette is inserted, it is ejected.

Cause : 1). Fixing screws for ML Detect P.C. Board and Cassette Holder Plate may loosen.  
 2). When the cassette tape may be inserted irregularly, the Intermediate Gear tooth may be shaved.  
 3). Cassette lid may not open due to the dust.

Remedy : To prevent it, the following modification is performed.  
 1). The fixing screws for ML Detect P.C. Board and Cassette Holder Plate is changed from XQN16+A2 to VHD0678 and lock tight adhesive is coated to 8 portions as shown in figures 1, 3 and 4.  
 2). The Intermediate Gear and Main Rack (L) Unit is changed as shown in figures 1 and 2.  
 3). The Lid Opener Angle (VMA9760) is added to the Side Plate L Unit as shown in figure 2.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
1	VXA5934	VXA5942	CASSETTE COMPARTMENT U	1	
25	VXA5762	VXA5944	SIDE PLATE L U	1	
27	VDG1158	VDG1254	INTERMEDIATE GEAR	1	
39	VXA5596	VXA5945	MAIN RACK (L) U	1	
69	—	VMA9760	LID OPENER ANGLE	0→1	
70	—	VHD0678	SCREW	0→6	
74	XQN16+A2	—	SCREW	6→0	
78	—	XYN2+C3	SCREW	0→2	

M1447M1452TM3486

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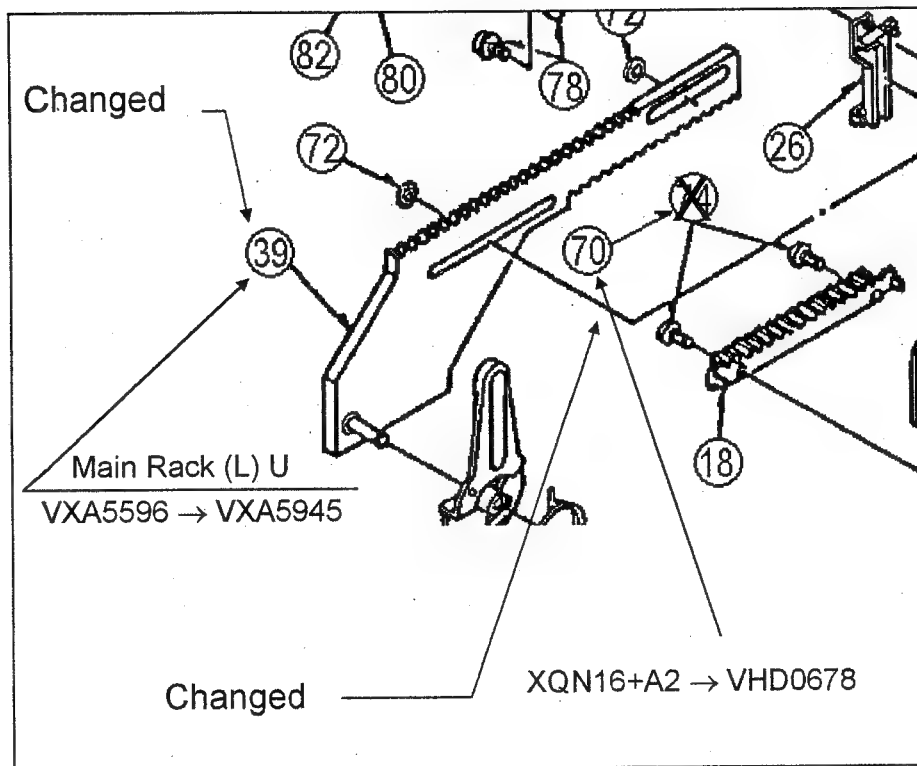


Fig. 1

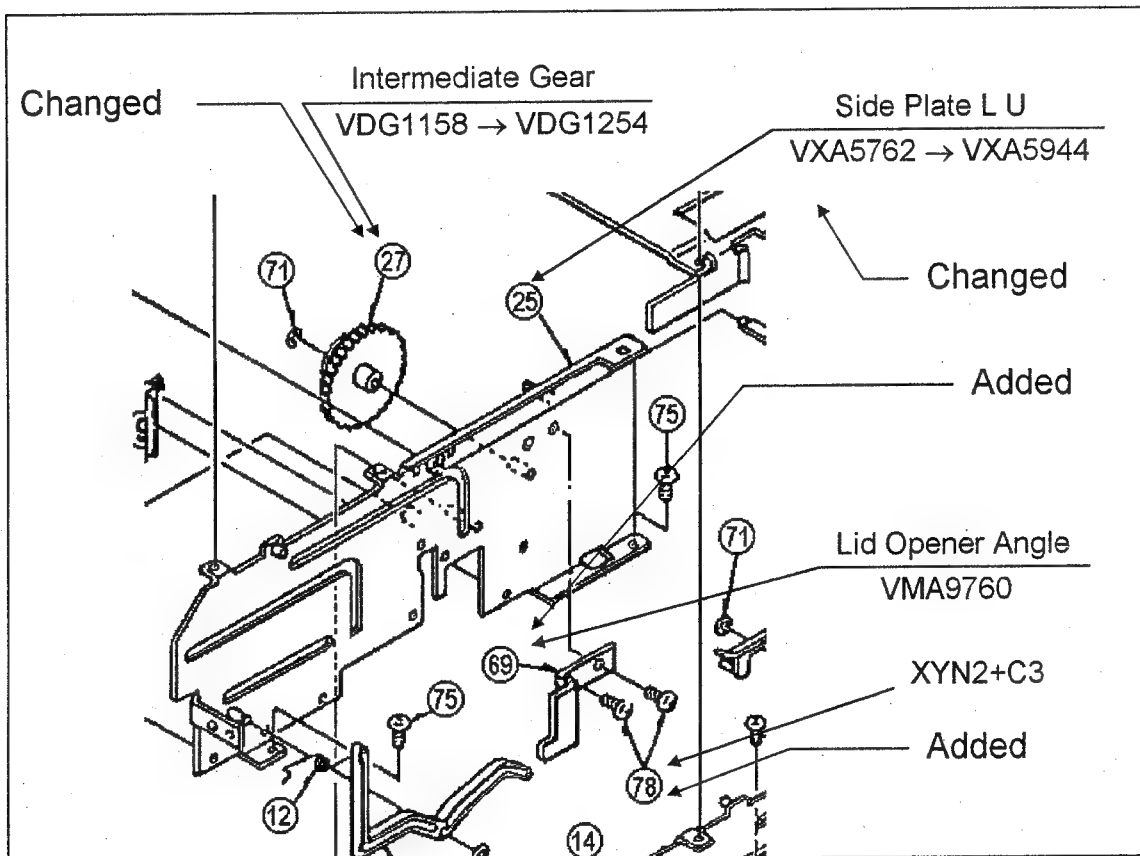


Fig. 2

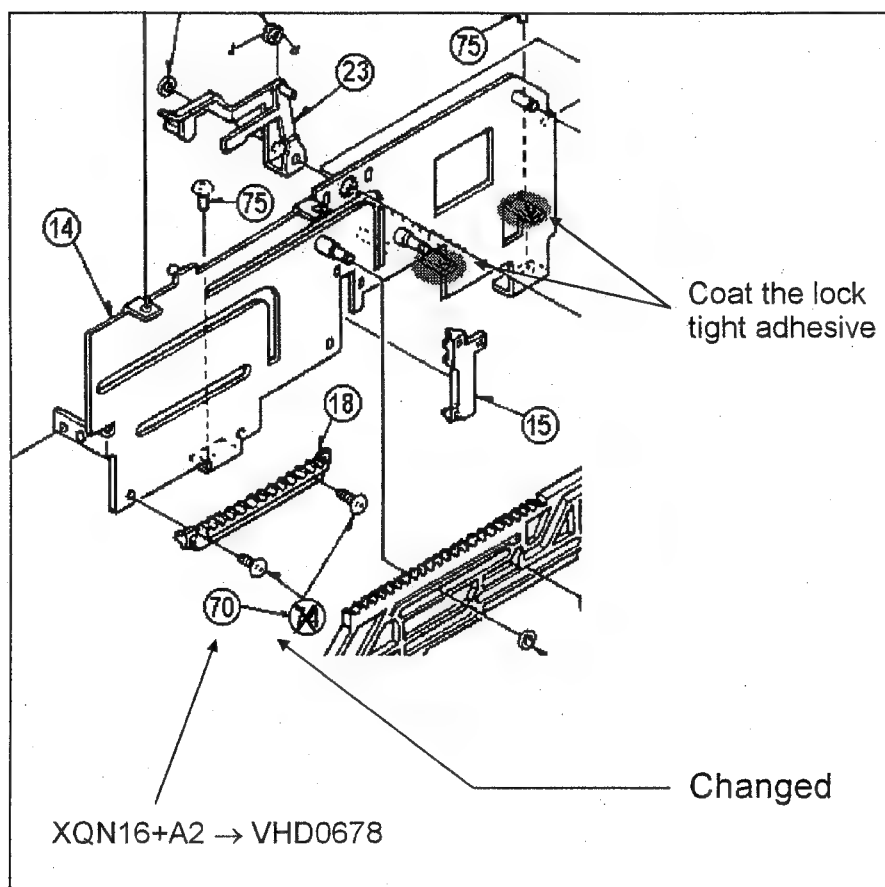


Fig. 3

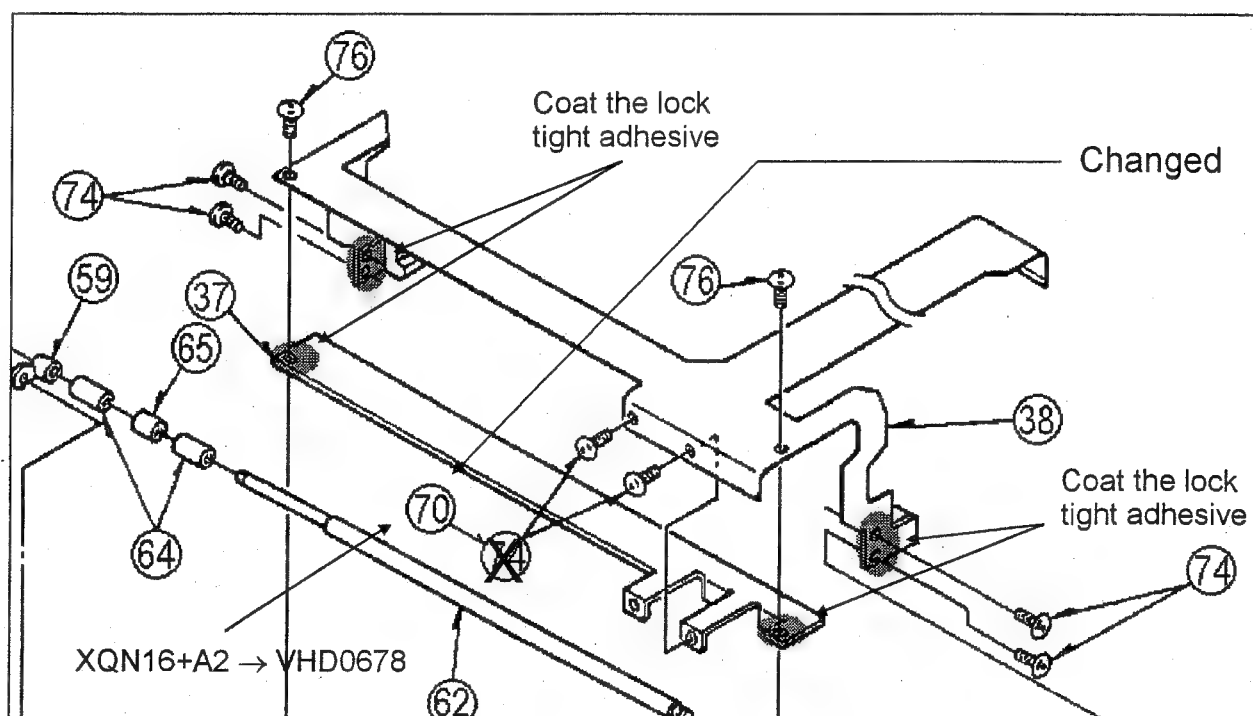


Fig. 4

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Standardization of AC Cord

Please use this supplement together with the Service Manual as follows :

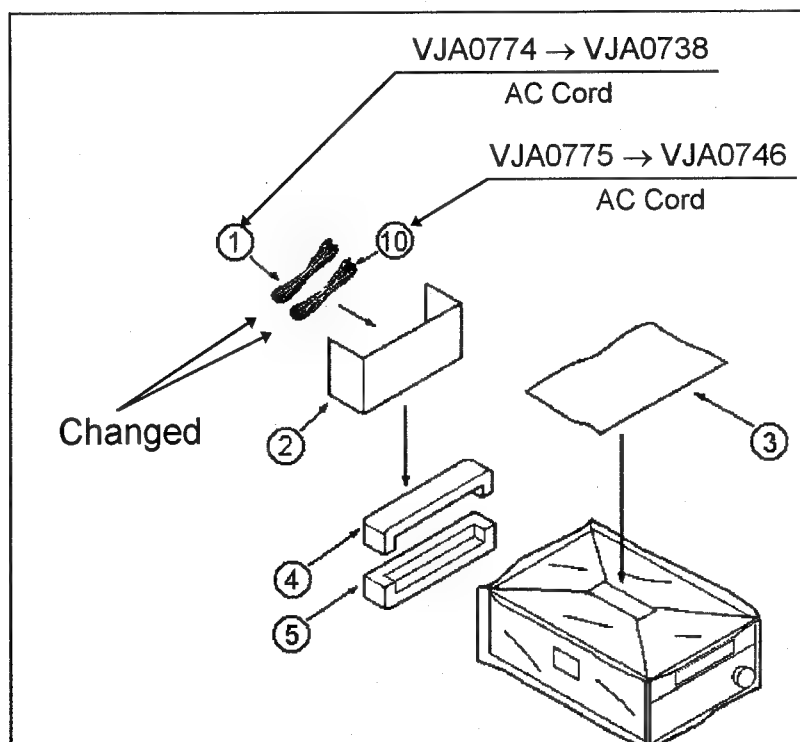
Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	52	VSD9612MJ01A	C7TRA0001
AJ-D640E	52	VSD9612MJ01A	C7TRA0001

#### Packing Parts Assembly

#### Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☒ The following part(s) has(have) been changed for productivity improvement.
- ☒ The following part(s) has(have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
1	VJA0774	VJA0738	AC CORD	1	
10	VJA0775	VJA0746	AC CORD	1	



G2811HM0343

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V18115/  
V18116

Order No. VSD9710SC624

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Introduction of New A Jack P.C. Board**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	54	VSD9612MJ01A/B	L6TRA0001
AJ-D640E	54	VSD9612MJ01A/B	L6TRA0001

Board : A Jack (VEP84291A)

To improve the manufacturing productivity, a new A Jack P.C. Board (VEP84291A-2/VJB84291-2) is introduced.

According to this change, resistor R140 is changed from discrete type resistor to chip type resistor as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R140	ERDS2TJ470	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	

100544902

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Introduction of New Power 1 P.C. Board

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	80	VSD9606M502A/B	A7TRB0001
AJ-D650E	55	VSD9612MJ01A/B	A7TRA0001
AJ-D640E	55	VSD9612MJ01A/B	A7TRA0001

#### Board : Power 1 (VEP81074B)

To meet the safety regulation, a new Power 1 P.C. Board (VEP81074B-2/VJB81074-2) is introduced. According to this change, diodes D25 (MA4082H) and D26 (MA4051-M) and resistors R46 and R47 (1/4W, 47K $\Omega$ ) are added.

- 1). Parts List (Changed parts only)
- 2). Schematic Diagram

#### Power 1 (VEP81074B-2 / VJB81074-2)

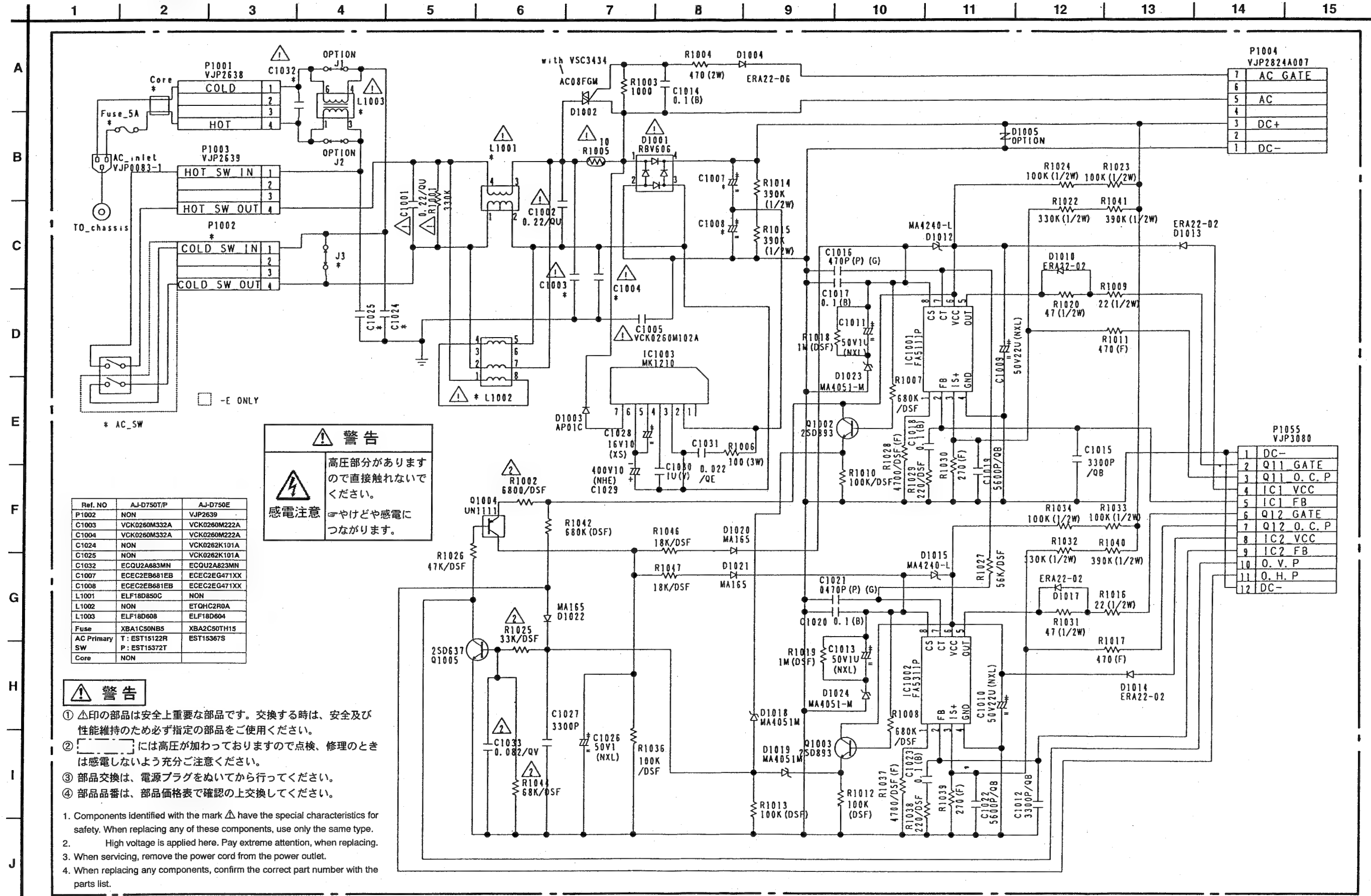
Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
D25	---	MA4082H	DIODE	0→1	
D26	---	MA4051-M	DIODE	0→1	
R46, R47	---	ERDS2TJ473	C. RESISTOR 1/4W 47K	0→2	

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POWER 1 SCHEMATIC DIAGRAM





117726 # 2037085  
V18115 # 1018093

Order No. VSD9710SA683

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Introduction of Tape Sensor Adjustment Cassette (VFK1369)**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	83	VSD9606M502A/B	---
AJ-D650E	56	VSD9612MJ01A/B	---
AJ-D640E	56	VSD9612MJ01A/B	---

Board : System Control (F2:VEP86146B) – AJ-D750  
System Control (F2:VEP86146E) – AJ-D650  
System Control (F2:VEP86146F) – AJ-D640

Tape Sensor Adjustment Cassette (VFK1369) is introduced. According to this, the 2-2. Photo Sensor Voltage Adjustment is added to the System Control Board as follows.

**\* Note \***

There is a modification difference by the paring of the MECHA I/F and System Control Boards. Please confirm the MECHA I/F and System Control Boards version and perform the modification. Please refer to the Technical Bulletin No. VSD9710SA684.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
		VFK1369	TAPE SENSOR ADJ. CASSETTE	0→1	

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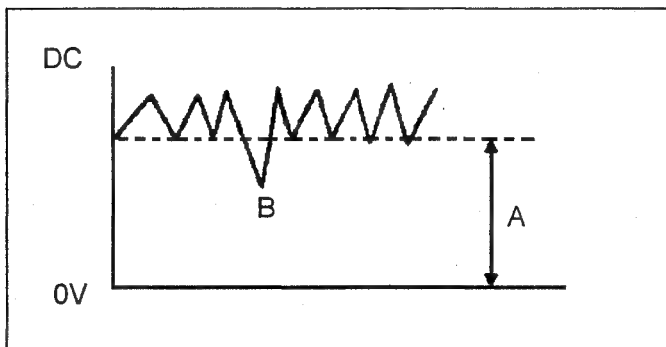
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(A). MECHA I/F Board version is VEP82106A or VEP82214A

## 2-2. Photo Sensor Voltage Adjustment

BOARD	SYSCON (F2)
SPEC.	A = 3.0V ~ 4.3V
TP	P2-26A (S Photo), P2-25A (T Photo)
ADJUST	---
INPUT	---
MODE	STOP
TAPE	Tape Sensor Cassette VFK1369
M. EQ	Oscilloscope

1. Connect the Extension Board and the power is turned ON.
2. Insert the Tape Sensor Adjustment Cassette. (VFK1369)
3. Measure the P2-25A and P2-26A with the oscilloscope and then confirm that the S and T DC levels (A) are within 3.00 ~ 4.3V.
4. If the S and T DC levels are out of specification, resistor values R11 (T side) and R12 (S side) are changed from 3.3K $\Omega$  to 1K $\Omega$  after power OFF and then confirm that the DC levels are within specification.
5. If the S and T DC levels are out of specification, resistor values R11 (T side) and R12 (S side) are changed from 1K $\Omega$  to 820 $\Omega$  after power OFF and then confirm that the DC levels are within specification.



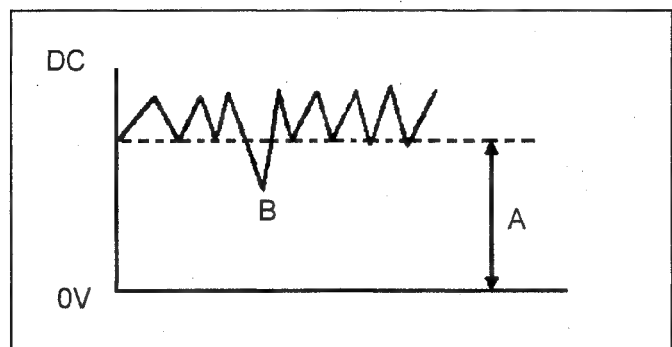
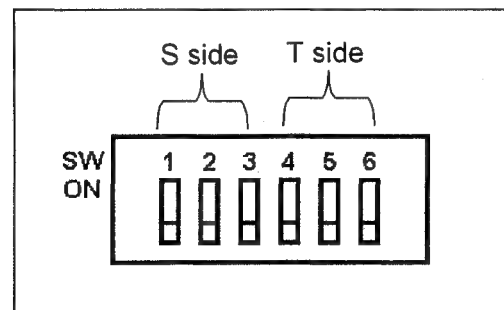
(B). MECHA I/F Board version is VEP82216A

## 2-2. Photo Sensor Voltage Adjustment

BOARD	SYSCON (F2)
SPEC.	A = 3.0V ~ 4.3V
TP	P2-26A (S Photo), P2-25A (T Photo)
ADJUST	SW200 (MECHA I/F)
INPUT	---
MODE	STOP
TAPE	Tape Sensor Cassette VFK1369
M. EQ	Oscilloscope

1. Insert the Tape Sensor Adjustment Cassette. (VFK1369)
2. Set the SW200 on the MECHA I/F Board so that the S and T DC levels become within 3.00 ~ 4.3V.

S Photo	T Photo	Up — A Voltage — Down							
SW-1	SW-4	OFF	ON	OFF	ON	OFF	ON	OFF	ON
SW-2	SW-5	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW-3	SW-6	OFF	OFF	OFF	OFF	ON	ON	ON	ON
Resistor Value		8200	3300	1050	880	750	660	460	420



# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Introduction of New MECHA I/F P.C. Board

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	84	VSD9606M502A/B	C7TRB0001
AJ-D650E	57	VSD9612MJ01A/B	C7TRA0001
AJ-D640E	57	VSD9612MJ01A/B	C7TRA0001

Board : System Control (F2:VEP86146B) – AJ-D750  
 System Control (F2:VEP86146E) – AJ-D650  
 System Control (F2:VEP86146F) – AJ-D640  
 MECHA I/F (VEP82216A)

To improve the manufacturing productivity and serviceability, a new MECHA I/F P.C. Board (VEP82216A / VJB82216) is introduced. This Supplement Service Manual contains the following items.

- 1). Parts List
- 2). Schematic Diagram
- 3). P.C. Board Layout

According to this change, the following modification is performed.

- 1). MECHA I/F Sub Board (VEP82210A) is absorbed in the new P.C. Board.
- 2). Resistors R11 and R12 are changed from 1/10W, 3.3K $\Omega$  to 1/10W, 8.2K $\Omega$  on the foil side of the System Control Board.

**\* Note \*** There is a modification difference by the paring of the MECHA I/F and System Control Boards as shown below. Please confirm the MECHA I/F and System Control Boards version and perform the modification.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R11, 12	ERJ6GEYJ332	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	2	

#### AJ-D750 – VEP86146B

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R11, R12	2-31	C-8 (1/14)	3-4	C-2 (F)

#### AJ-D650/D640 – VEP86146E/F

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R11, R12	2-31	E-5 (1/14)	3-4	C-2 (F)

10164498550375053102295021

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- a). MECHA I/F Board is VEP82106A or VEP82214A and the R11 and R12 on the System Control Board are not 8.2K $\Omega$ .

Photo Sensor Voltage Adjustment (A) is performed. If the voltage specification A is not 3.0 ~ 4.3VDC, resistors R11 and R12 are changed from 3.3K $\Omega$  to 1K $\Omega$  first and then to 820 $\Omega$  as follows until the voltage specification is within 3.0 ~ 4.3VDC.

- b). MECHA I/F Board is VEP82106A or VEP82214A and the R11 and R12 on the System Control Board are 8.2K $\Omega$ .

Photo Sensor Voltage Adjustment (A) is performed. If the voltage specification A is not 3.0 ~ 4.3VDC, resistors R11 and R12 are changed as follows until the voltage specification is within 3.0 ~ 4.3VDC.

8.2K $\Omega$   $\rightarrow$  3.3K $\Omega$   $\rightarrow$  1K $\Omega$   $\rightarrow$  820 $\Omega$

- c). MECHA I/F Board is VEP82216A and the R11 and R12 on the System Control Board are not 8.2K $\Omega$ .

Photo Sensor Voltage Adjustment (B) is performed by the Dip Switch after changing the resistors R11 and R12 from 3.3K $\Omega$  to 8.2K $\Omega$ .

- d). MECHA I/F Board is VEP82216A and the R11 and R12 on the System Control Board are 8.2K $\Omega$ .

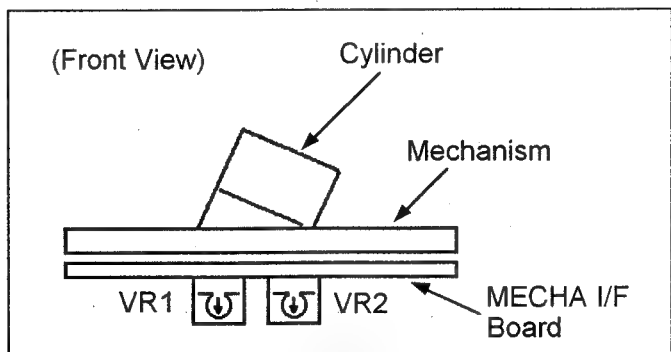
Photo Sensor Voltage Adjustment (B) is performed and R11 and R12 value changes are not required.

3). The position of the Tension Sensor Voltage VR is changed to adjust easy as shown below.

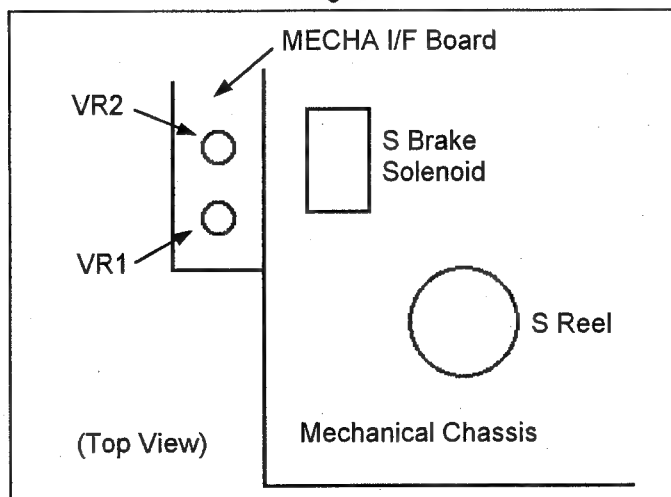
### 5-8. Tension Arm Offset Voltage Adjustment

Specification	2.5 $\pm$ 0.5 (V)
Mode	EJECT
Test Point	TP201 (Servo Board : F1)
Equipment	Digital Volt Meter
Adjustment	VR1 (MECHA I/F Board : Bottom of Mechanism)

1. Adjust VR1 so that the DC voltage at TP201 is within the specification in EJECT mode.



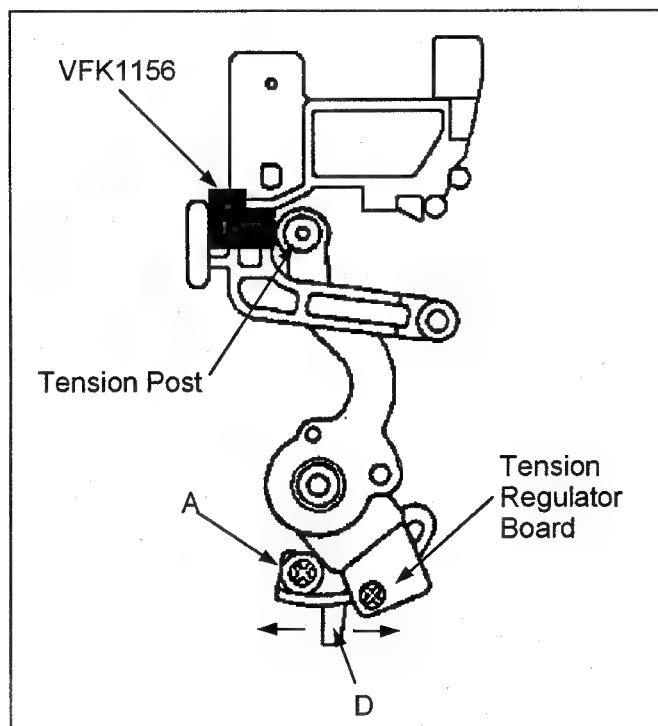
Changed



### 5-10. Tension Arm PLAY Voltage Adjustment

Specification	3.8 $\pm$ 0.05 (V)
Mode	STOP
Test Point	TP201 (Servo Board : F1)
Equipment	Digital Volt Meter
Adjustment	VR2 (MECHA I/F Board : See 5-8. Offset Voltage Adjustment)
Tool	VFK1156

1. Set the VFK1156 at the suitable position. (Tension Arm Tool : Play, Black color)
2. Place into the loading mode without a tape.
3. Adjust VR2 so that the specification of TP201 in STOP mode is within the specification. (Refer to item 5-8. Tension Arm Offset Voltage Adjustment)



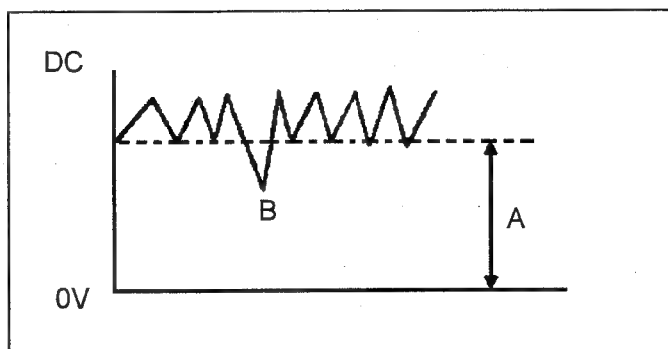
- 4). As the tape beginning/end detect photo sensor voltage may be out of specification due to the tolerance of the parts, the Dip Switch SW200 for the photo sensor voltage adjustment is added on the MECHA I/F Board. According to this, the Photo Sensor Voltage Adjustment is added to the System Control Board.

**(A). MECHA I/F Board version is VEP82106A or VEP82214A**

**2-2. Photo Sensor Voltage Adjustment**

BOARD	SYSCON (F2)
SPEC.	A = 3.0V ~ 4.3V
TP	P2-26A (S Photo), P2-25A (T Photo)
ADJUST	---
INPUT	---
MODE	STOP
TAPE	Tape Sensor Cassette VFK1369
M. EQ	Oscilloscope

1. Connect the Extension Board and the power is turned ON.
2. Insert the Tape Sensor Adjustment Cassette. (VFK1369)
3. Measure the P2-25A and P2-26A with the oscilloscope and then confirm that the S and T DC levels (A) are within 3.00 ~ 4.3V.
4. If the S and T DC levels are out of specification, resistor values R11 (T side) and R12 (S side) are changed from 3.3K $\Omega$  to 1K $\Omega$  after power OFF and then confirm that the DC levels are within specification.
5. If the S and T DC levels are out of specification, resistor values R11 (T side) and R12 (S side) are changed from 1K $\Omega$  to 820 $\Omega$  after power OFF and then confirm that the DC levels are within specification.



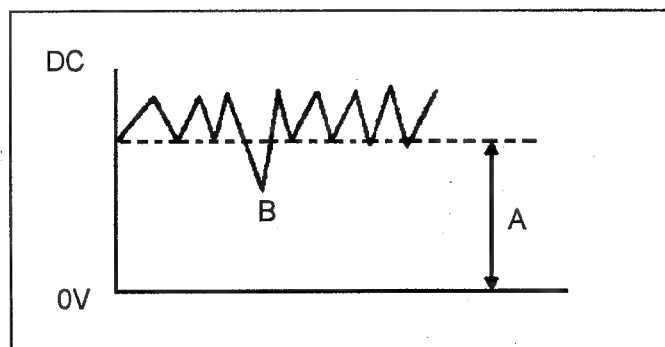
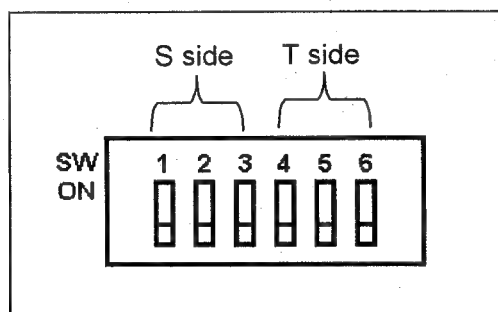
**(B). MECHA I/F Board version is VEP82216A**

**2-2. Photo Sensor Voltage Adjustment**

BOARD	SYSCON (F2)
SPEC.	A = 3.0V ~ 4.3V
TP	P2-26A (S Photo), P2-25A (T Photo)
ADJUST	SW200 (MECHA I/F)
INPUT	---
MODE	STOP
TAPE	Tape Sensor Cassette VFK1369
M. EQ	Oscilloscope

1. Insert the Tape Sensor Adjustment Cassette. (VFK1369)
2. Set the SW200 on the MECHA I/F Board so that the S and T DC levels become within 3.00 ~ 4.3V.

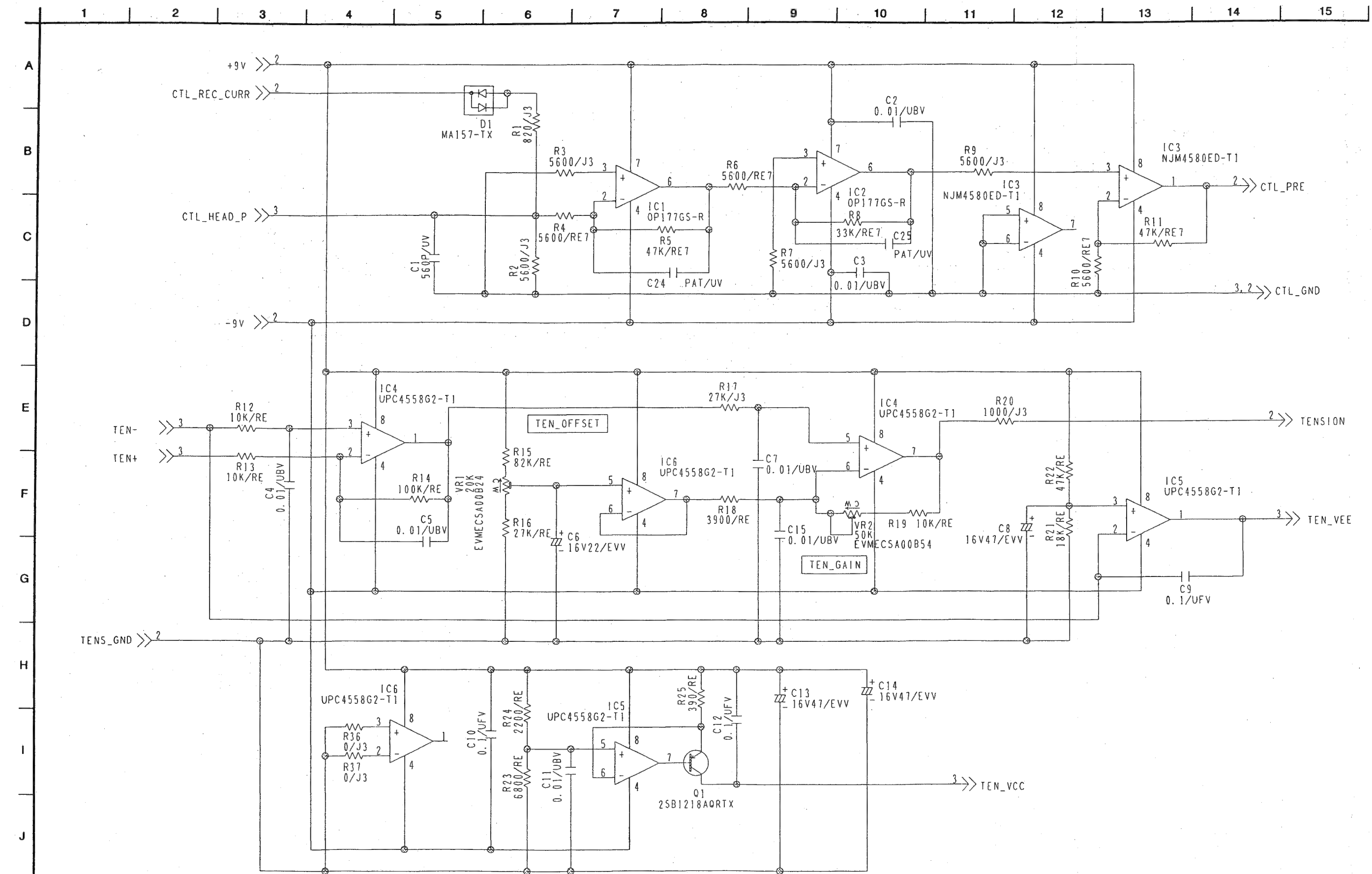
S Photo	T Photo	Up --- A Voltage --- Down							
SW-1	SW-4	OFF	ON	OFF	ON	OFF	ON	OFF	ON
SW-2	SW-5	OFF	OFF	ON	ON	OFF	OFF	ON	ON
SW-3	SW-6	OFF	OFF	OFF	OFF	ON	ON	ON	ON
Resistor Value		8200	3300	1050	880	750	660	460	420



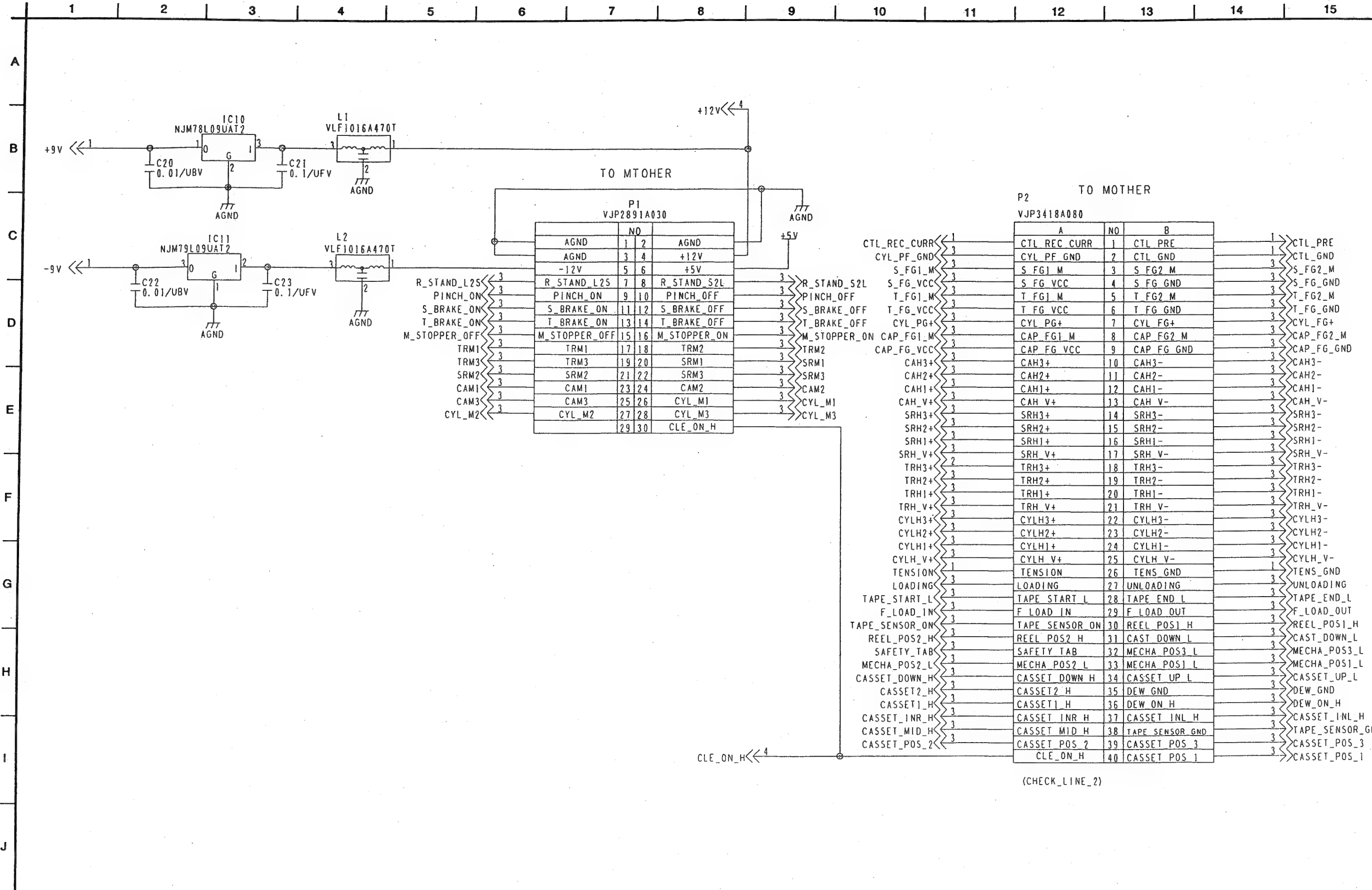
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP82216A	MECH 1/F P.C. BOARD	1	(RTL)
C1	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C2-C5	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4	
C6	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C7	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C8	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C9, 10	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2	
C11	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C12	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C13, 14	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C15	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C20	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C21	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C22	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C23	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C100	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C101	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C102	ECA1HEN101	E. CAPACITOR 50V 100U	1	
C103	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C104	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C200-02	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	3	
D1	MA157	DIODE	1	
D100-02	MA738	DIODE	3	
IC1, C2	OP177GS	IC	2	
IC3	NJM4580ED	IC	1	
IC4-C6	UPC4558G2	IC	3	
IC10	NJM78L09UA	IC	1	
IC11	NJM79L09UA	IC	1	
IC100	MC14538BF	IC	1	
L1, L2	VLF1016A470	FILTER	2	
L100	VLP0133	COIL	1	
P1	VJP2891A030	CONNECTOR (MALE)	1	
P2	VJP3418A080	CONNECTOR (MALE)	1	
P11	VJP3172D002	CONNECTOR (MALE)	1	
P12	VJP3172D005	CONNECTOR (MALE)	1	
P13	VJP3172D002	CONNECTOR (MALE)	1	
P14	VJP3172D003	CONNECTOR (MALE)	1	
P15	VJP3518B002	CONNECTOR (MALE)	1	
P16	VJP3518B003	CONNECTOR (MALE)	1	
P17	VJS3801B010	CONNECTOR (FEMALE)	1	
P18	VJP3518B002	CONNECTOR (MALE)	1	
P19	VJP3172D002	CONNECTOR (MALE)	1	
P20	VJP3518B003	CONNECTOR (MALE)	1	
P21	VJP3518B002	CONNECTOR (MALE)	1	
P22	VJP3172D004	CONNECTOR (MALE)	1	
P24	VJP3518B002	CONNECTOR (MALE)	1	
P25	VJP1230T	CONNECTOR (MALE) 3P	1	
P26	VJP1236T	CONNECTOR (MALE) 9P	1	
P30	VJP3172D003	CONNECTOR (MALE)	1	
P32	VJP3172D004	CONNECTOR (MALE)	1	
P33	VJS3406B015	CONNECTOR (FEMALE)	1	
P34, 35	VJS2889A017	CONNECTOR (FEMALE)	2	
P36	VJS3406B019	CONNECTOR (FEMALE)	1	
P41	VJP3172D002	CONNECTOR (MALE)	1	
P48	VJP3125B002	CONNECTOR (MALE)	1	
Q1	2SB1218A-R	TRANSISTOR	1	
Q100, 01	2SB766-R	TRANSISTOR	2	
QR100, 01	UN2214	TRANSISTOR-RESISTOR	2	
R1	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R2, R3	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	2	
R4	ERJ3RBD562	M. RESISTOR CH 3W 5.2K	1	
R5	ERJ3RBD473	M. RESISTOR CH 3W 47K	1	
R6	ERJ3RBD562	M. RESISTOR CH 3W 5.2K	1	
R7	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R8	ERJ3RBD333	M. RESISTOR CH 3W 33K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R9	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R10	ERJ3RBD562	M. RESISTOR CH 3W 5.2K	1	
R11	ERJ3RBD473	M. RESISTOR CH 3W 47K	1	
R12, 13	ERJ6RBD103	M. RESISTOR CH 1/10W 10K	2	
R14	ERJ6RBD104	M. RESISTOR CH 1/10W 100K	1	
R15	ERJ6RBD823	M. RESISTOR CH 1/10W 82K	1	
R16	ERJ6RBD273	M. RESISTOR CH 1/10W 27K	1	
R17	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R18	ERJ6RBD392	M. RESISTOR CH 1/10W 3.9K	1	
R19	ERJ6RBD103	M. RESISTOR CH 1/10W 10K	1	
R20	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R21	ERJ6RBD183	M. RESISTOR CH 1/10W 18K	1	
R22	ERJ6RBD473	M. RESISTOR CH 1/10W 47K	1	
R23	ERJ6RBD682	M. RESISTOR CH 1/10W 6.8K	1	
R24	ERJ6RBD222	M. RESISTOR CH 1/10W 2.2K	1	
R25	ERJ6RBD391	M. RESISTOR CH 1/10W 390	1	
R36, 37	ERJ3GEYR000	M. RESISTOR CH 1/16W 0	2	
R100	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R101	ERJ8GYJ102	M. RESISTOR CH 1/8W 1K	1	
R102	ERJ6GEYJ102	M. RESISTOR CH 1/10W 1K	1	
R103	ERJ3GEYJ334	M. RESISTOR CH 1/16W 330K	1	
R104	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R105	ERJ8GYJ102	M. RESISTOR CH 1/8W 1K	1	
R200	ERJ6GEYJ562	M. RESISTOR CH 1/10W 5.6K	1	
R201	ERJ6GEYJ122	M. RESISTOR CH 1/10W 1.2K	1	
R202	ERJ6GEYJ821	M. RESISTOR CH 1/10W 820	1	
R203	ERJ6GEYJ562	M. RESISTOR CH 1/10W 5.6K	1	
R204	ERJ6GEYJ122	M. RESISTOR CH 1/10W 1.2K	1	
R205	ERJ6GEYJ821	M. RESISTOR CH 1/10W 820	1	
SW200	VSS023706	SWITCH	1	
VR1	EVMEGSA00B24	V. RESISTOR 20K	1	
VR2	EVMEGSA00B54	V. RESISTOR 50K	1	

## MECHA IF (1/4) SCHEMATIC DIAGRAM

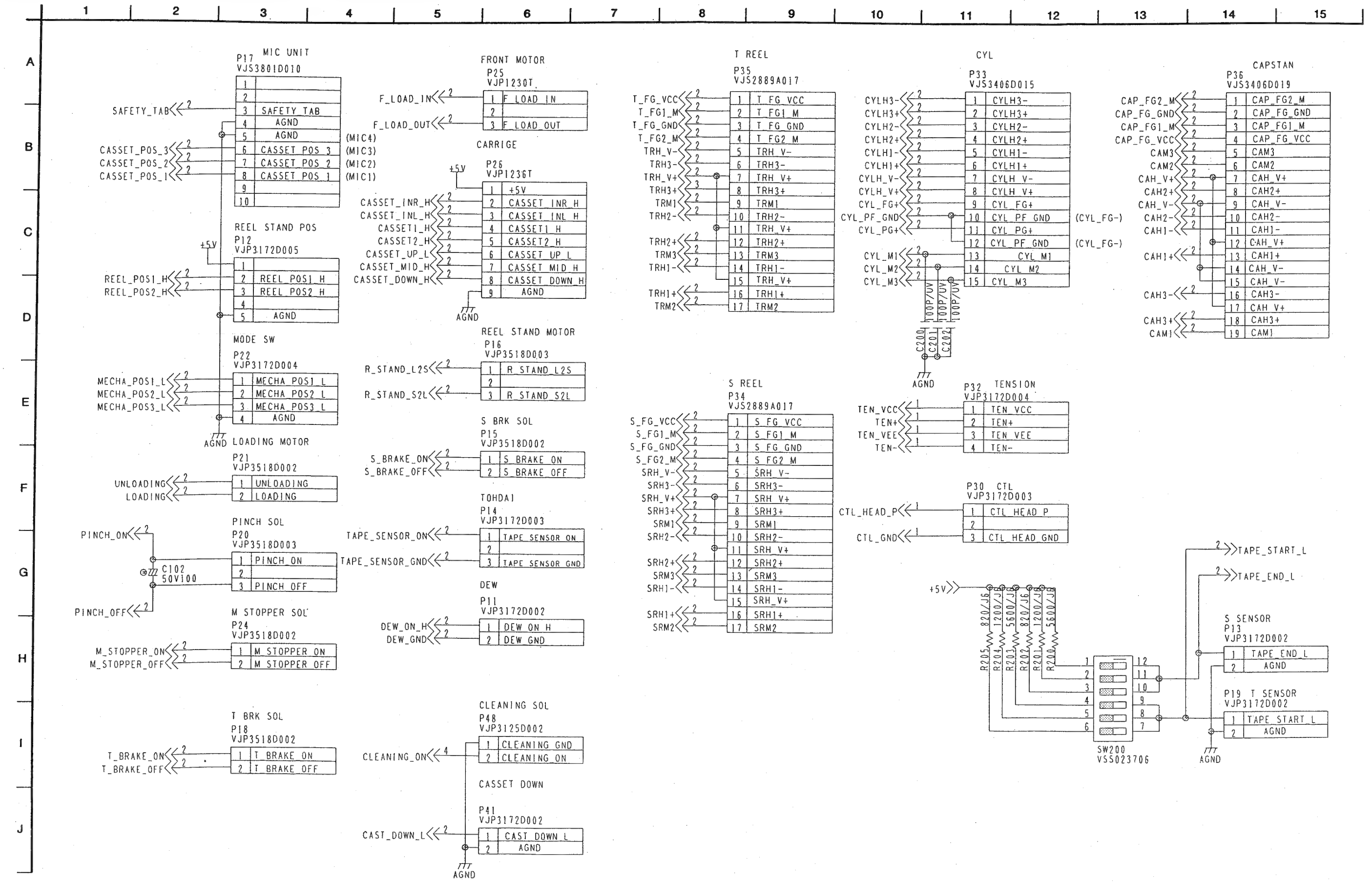


MECHA IF (2/4) SCHEMATIC DIAGRAM

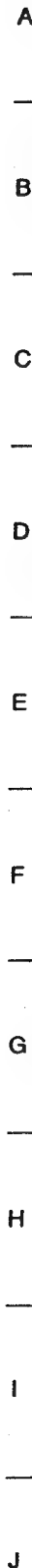




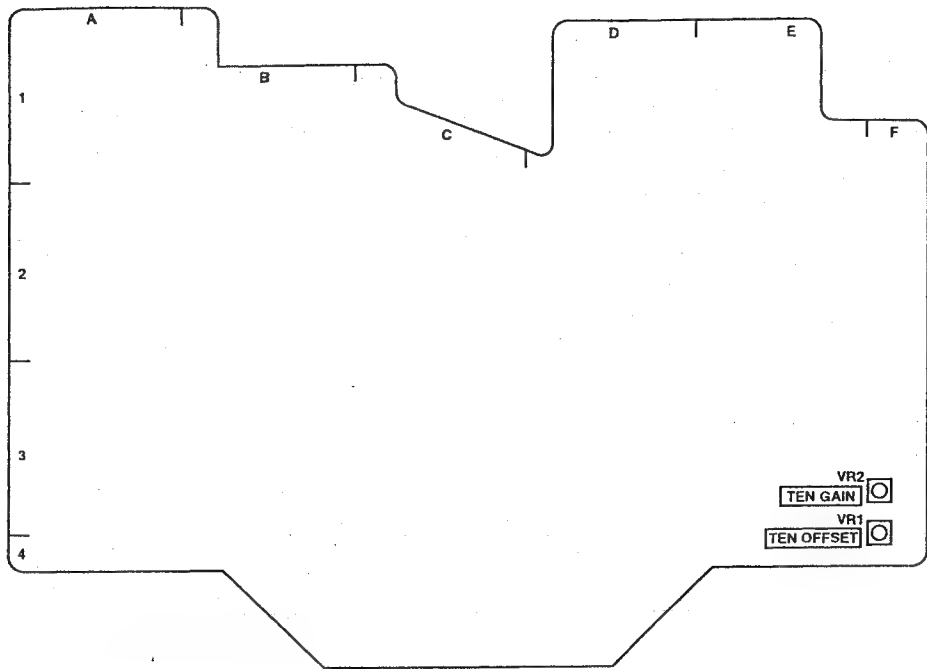
# MECHA IF (3/4) SCHEMATIC DIAGRAM



A horizontal number line with 15 segments, numbered 1 through 15 from left to right. The line is divided into 15 equal segments by vertical tick marks. The numbers 1 through 15 are placed above the tick marks, starting from the left and ending on the right.



MECHA I/F P.C.BOARD (VEP82216A)

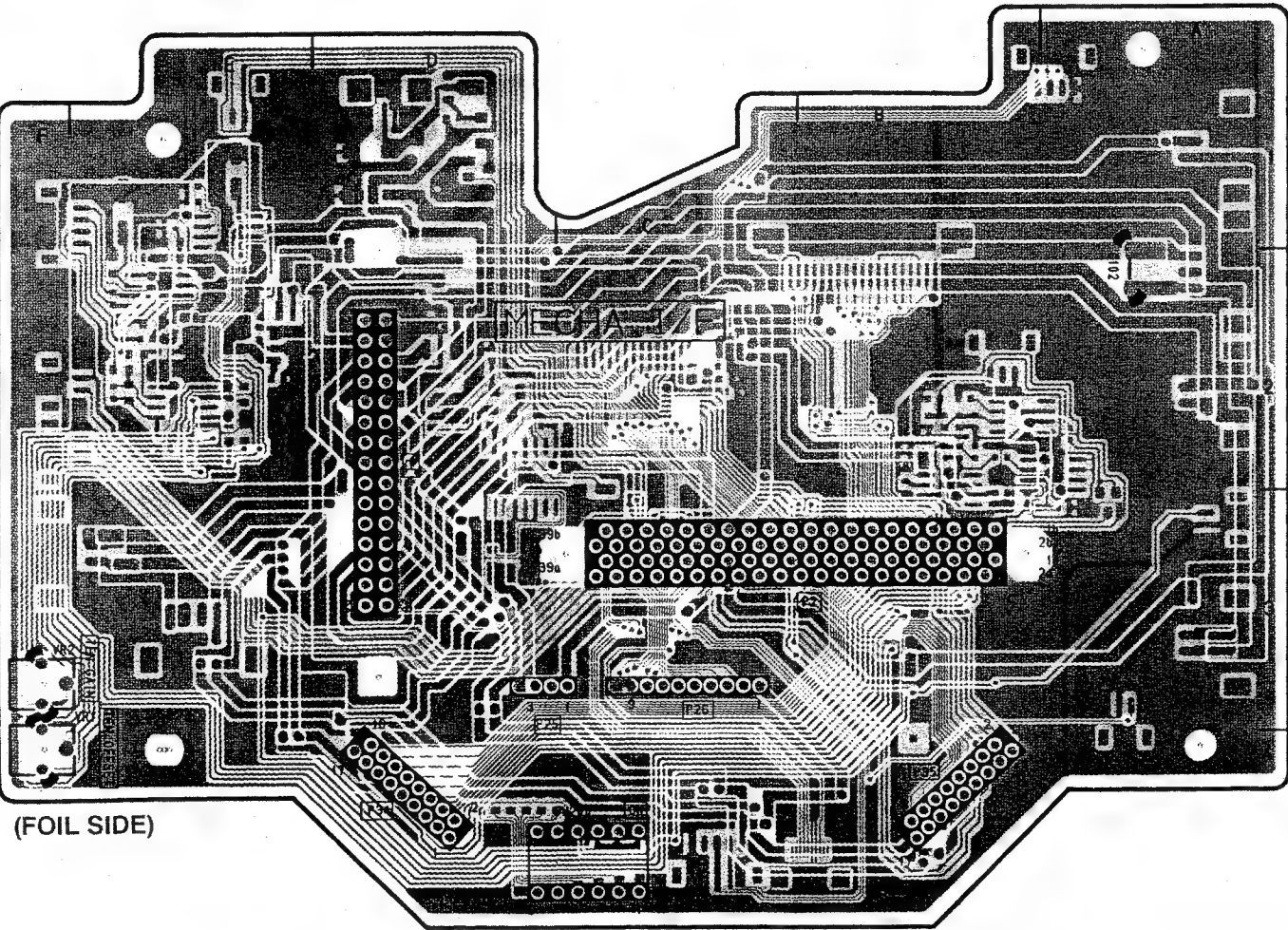


MECHANISM INTERFACE C.B.A. (FOIL SIDE)	
Adjustment	
VR1	F-4
VR2	F-3
Connector	
P1	D-2
P2	B-3
P25	D-3
P26	C-3
P34	D-4
P35	B-4

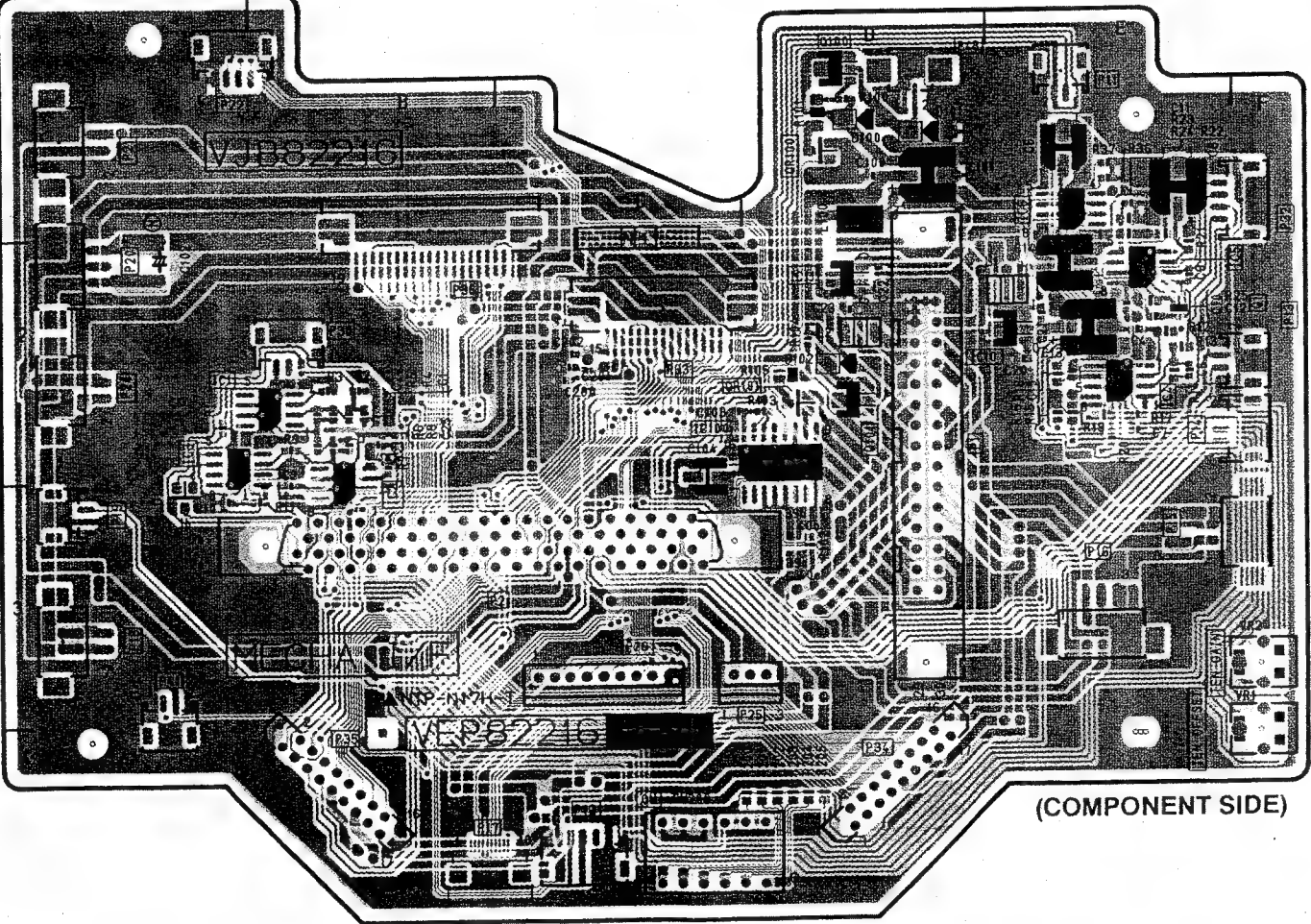
ADDRESS INFORMATION

MECHANISM INTERFACE C.B.A. (COMPONENT SIDE)			
Transistor		P11	E-1
Q1	F-2	P12	C-4
Q100	D-1	P13	F-2
Q101	D-2	P14	E-2
Transistor & Resistor		P15	E-3
QR100	D-1	P16	E-3
QR101	D-2	P17	B-4
Integrated Circuit		P18	A-3
IC1	A-2	P19	A-3
IC2	B-3	P20	A-2
IC3	A-2	P21	A-1
IC4	E-2	P22	A-1
IC5	F-2	P24	A-2
IC6	E-1	P25	D-3
IC10	E-2	P26	C-3
IC11	D-2	P30	B-2
IC100	C-2	P32	F-1
Adjustment		P33	C-2
VR1	F-3	P34	D-4
VR2	F-3	P35	B-4
Connector		P36	B-2
P1	D-2	P41	A-3
P2	B-3	P48	D-1

ADDRESS INFORMATION



(FOIL SIDE)



(COMPONENT SIDE)



# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Short Protect Circuit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	85	VSD9606M502A	C7TRB0001
AJ-D650E ✓	58	VSD9612MJ01A	C7TRA0001
AJ-D640E ✓	58	VSD9612MJ01A	C7TRA0001

Board : Power 1 (VEP81074B)

Symptom : When the 5V line is shorted, 12V line may not be shut down.

Cause : Due to the malfunction of the Short Protect Circuit.

Remedy : To prevent it, the following modification is performed.

- 1). Change resistor R2 from 1/4W, 10K $\Omega$  to 1/4W, 4.7K $\Omega$  on the component side.
- 2). Change resistors R46 and R47 from 1/4W, 47K $\Omega$  to 1/4W, 18K $\Omega$  on the component side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R2	ERDS2TJ103	ERDS2FJ472	C. RESISTOR 1/4W 4.7K	1	
R46, 47	ERDS2FJ473	ERDS2FJ183	C. RESISTOR 1/4W 18K	2	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R2	2-185	C-3	---	---
R46	2-185	B-3	---	---
R47	2-185	B-3	---	---

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Reduction of Noise from Outside**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	86	VSD9606M502A	C7TRB0001
AJ-D650E ✓	59	VSD9612MJ01A	C7TRA0001
AJ-D640E ✓	59	VSD9612MJ01A	C7TRA0001

Board : Power 1 (VEP81074B)

To have a margin of the noise from outside, transistor Q5 is changed from 2SD637 to 2SD637-Q.

**\* Note \*****This modification is only effective for the P.C. Board version VEP81074B-2/VJB81074-2.**

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Q5	2SD637	2SD637-Q	TRANSISTOR	1	

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VJ8115#1017074 ✓

Order No. VSD9710SC625

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Vector Adjustment Range

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	60	VSD9612MJ01A/B	E7TRA0001
AJ-D640E	60	VSD9612MJ01A/B	E7TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : Vector Adjustment cannot be performed at the Composite OUT.

Cause : Vector Adjustment range is narrow.

Remedy : To widen the Vector Adjustment range, a trimmer VC500 is changed from ECV1ZW20X53T to ECV1ZW30X53T on the component side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
VC500	ECV1ZW20X53T	ECV1ZW20X53T	TRIMMER	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
VC500	2-51	B-7 (7/16)	3-5	I-3 (C)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Standardization of Fixing Screws for Power 2 P.C. Board**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	87	VSD9606M502A/B	L6TRA0001
AJ-D650E ✓	61	VSD9612MJ01A/B	L6TRA0001
AJ-D640E ✓	61	VSD9612MJ01A/B	L6TRA0001

Board : Power 2 (VEP81075B)

## Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.  
☐ The following part(s) has(have) been changed for productivity improvement.  
☒ The following part(s) has(have) been changed for standardization.  
☐ The following part(s) has (have) been changed for the safety regulation.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	XYN3+F8FZS	XYN3+C8FZS	SCREW	4	



7226  
13115J  
79922  
20162

Order No. VSD9710SA688

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Change of E-ring

Please use this supplement together with the Service Manual as follows :

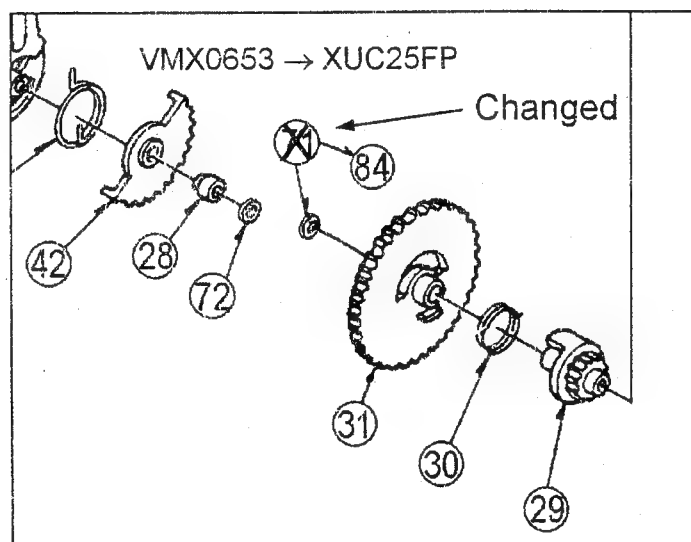
Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	88	VSD9606M502A	D7TRB0001
AJ-D650E	63	VSD9612MJ01A	D7TRA0001
AJ-D640E	63	VSD9612MJ01A	D7TRA0001
AJ-LT75E	9	VSD9707M602A	G7TNA0001
AJ-D230E	9	VSD9708M605	I7TDA0001

### Cassette Compartment Assembly

#### Reason for Change

- ☐ The following part(s) has (have) been changed for serviceability improvement.
- ☒ The following part(s) has (have) been changed for productivity improvement.
- ☒ The following part(s) has (have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
71	VMX0653	—	CUT WASHER	1→0	
84	—	XUC25FP	E-RING	0→1	



TM3520

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7726  
18115 ✓  
8922  
20162

Order No. VSD9710SA689

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Cassette Compartment Unit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	89	VSD9606M502A	D7TRB0001
AJ-D650E	64	VSD9612MJ01A	D7TRA0001
AJ-D640E	64	VSD9612MJ01A	D7TRA0001
AJ-LT75E	10	VSD9707M602A	G7TNA0001
AJ-D230E	10	VSD9708M605	I7TDA0001

#### Cassette Compartment Assembly

Symptom : L cassette may not fall down.

Cause : When the L cassette is inserted, the label attached side of the cassette tape falls down due to the tolerance of the Cassette Sub Rail slot and then it is not inserted correctly.

Remedy : To improve the cassette insertion, the Sub Rail (R) and (L) are changed as shown in figures 1 and 2.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
1	VXA5942	VXA5979	CASSETTE COMPARTMENT U	1	
15	VML2A51	VML3282	SUB RAIL (R)	1	
26	VML2A48	VML3281	SUB RAIL (L)	1	

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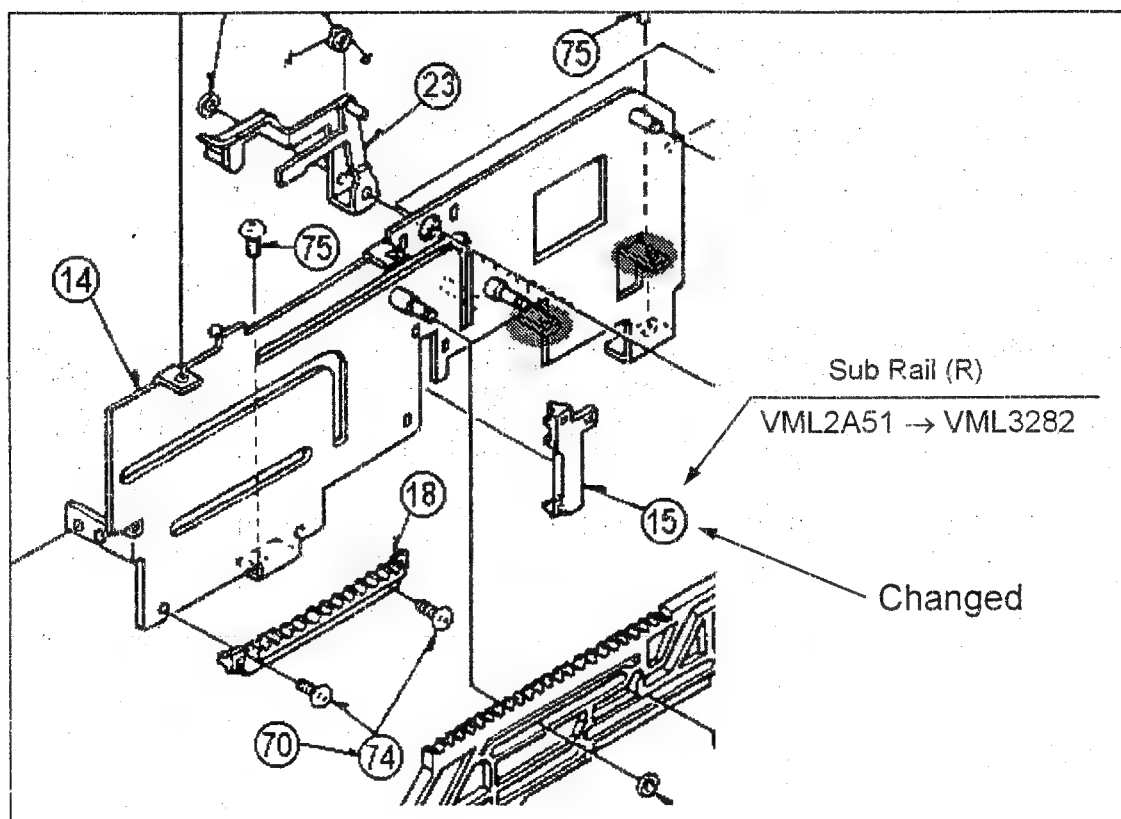


Fig. 1

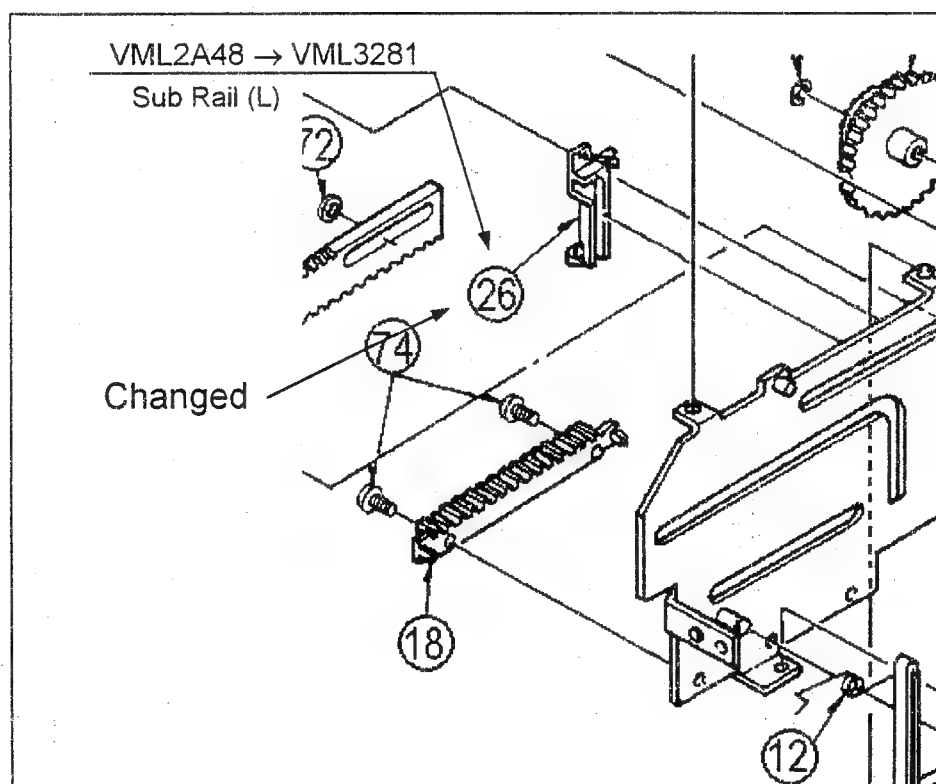


Fig. 2

# Technical Bulletin

## ***Supplement to the Service Manual***

Broadcast Product

**Subject : Introduction of New REC PB P.C. Board**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	90	VSD9606M502A/B	E7TRB0001
AJ-D650E	65	VSD9612MJ01A/B	E7TRA0001
AJ-D640E	65	VSD9612MJ01A/B	E7TRA0001

Board : REC PB (F5:VEP83353B)

To improve the manufacturing productivity and introduce the new function, a new F5 REC PB P.C. Board (VEP83353B-2 / VJB83353-2) is introduced. This Technical Bulletin contains the following items.

- 1). Parts List
- 2). Schematic Diagram
- 3). P.C. Board Layout

### < AJ-D750 >

According to this change, the following functions are introduced.

- 1). EE TEST MODE of the VIDEO ADJUST on the Service Menu can be available.
- 2). New TAPE\_CNT LSI is introduced.

**\* Note \*** AV PROM must be up-graded more than version P1.07 at the same time. This AV PROM has been introduced from October 1996 production. Please refer to the Technical Bulletin No. VSD9701SA631.

VSI2278G

P1.07 : 65CF

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP83353B	F5 REC PB P.C. BOARD	1	(RTL)
C3101-09	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
C3121	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3122	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3123	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
C3124	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C3125, 26	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3127	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C3128	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3129	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1	
C3130	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C3131	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3132	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3134	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3135	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C3136	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C3137, 38	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C3139, 40	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3141	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C3142	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3145	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C3146, 47	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3148	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C3149	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3150	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1	
C3151	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3152	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C3153-62	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	10	
C3171-84	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	14	
C3185	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3191-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	25	
C3216	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3221-28	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3229	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3241	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3242-49	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3250	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3261	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3262	ECUM1H1000CN	C. CAPACITOR CH 50V 10P	1	
C3263	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3264	ECUX1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3265-68	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3269	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3281-89	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
C3292, 93	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	2	
C3301-18	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	18	
C3319	VCK0151	C. CAPACITOR	1	
C3320	ECUX1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3321	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3322	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3323	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3324	ECUX1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3325	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3326	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3327, 28	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3329	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C3330	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C3331	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C3332	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C3333	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3334	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3335	ECUX1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3336	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3337	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3341-53	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	13	
C3354	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3361-71	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
C3381-92	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	12	
C3401	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C3402	ECUX1H150JCN	C. CAPACITOR CH 50V 15P	1	
C3403-12	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	10	
C3421-32	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	12	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3441	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3442-45	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3451-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3459	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3460, 61	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3471-77	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	7	
C3478	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3483-86	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3491-85	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C3501	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3502-04	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
C3506	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3509	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3510	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C3511	ECEVOJV470Q	E. CAPACITOR CH8.3V 47U	1	
C3512	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3513	ECUX1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3514	ECUX1H150JCN	C. CAPACITOR CH 50V 15P	1	
C3515, 16	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3520	ECEVOJV470Q	E. CAPACITOR CH8.3V 47U	1	
C3521, 22	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3523-25	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	3	
C3601	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3602	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3605	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3701, 02	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3703	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C3704, 05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3706	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C3707, 08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3709	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C3710, 11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3712	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3713, 14	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3715	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3716, 17	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3718	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3719, 20	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3721	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3722, 23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3724	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3725, 26	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3727	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3731-33	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	3	
C3741, 42	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3743	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C3744, 45	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3746	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
D3101	MA715	DIODE	1	
D3102	MA335-R	DIODE	1	
D3103, 04	MA152K	DIODE	2	
D3111, 12	MA701A	DIODE	2	
D3501-03	MA715	DIODE	3	
D3507, 08	MA152K	DIODE	2	
FL3101	VLF1118	FILTER	1	
FL3102	VLF1117	FILTER	1	
FL3103	VLF1118	FILTER	1	
FL3104-06	VLF1016A223	FILTER	3	
IC3001	UPD65841G025	IC	1	
IC3003	MN67372A2	IC	1	
IC3004	MN4707F	IC	1	
IC3005	MN673711	IC	1	
IC3006	M65401FP	IC	1	
IC3007	L7A1433	IC	1	
IC3008	MB81V4260S7	IC	1	
IC3009, 10	L7A1434	IC	2	
IC3011	L7A1433	IC	1	
IC3012	MB81V4260S7	IC	1	
IC3013	MN673711	IC	1	
IC3014	M65401FP	IC	1	
IC3015	M52680FP	IC	1	
IC3016	MN67372A2	IC	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC3017	MN4707F	IC	1		L3107	VLQ0163J3R9	COIL 3.9UH	1	
IC3018-21	UPD42280G3	IC	4		L3108	VLQ0319K470	COIL 47UH	1	
IC3022	UPD658438028	IC	1		L3111	VLQ0163J1R5	COIL 1.5UH	1	
IC3023	UPD42280G3	IC	1		L3121-23	VLQ0319K100	COIL 10UH	3	
IC3024	UPD65888D022	IC	1		L3131, 32	VLP0133	COIL	2	
IC3025	UPD71055GB	IC	1		L3501	VLQ0319K470	COIL 47UH	1	
IC3027, 28	UPD42280G3	IC	2						
IC3030	UPD71055GB	IC	1		P3001, 02	VJP3454B098	CONNECTOR (MALE)	2	
IC3031	T180G41-1437	IC	1		P3003	VJP3418B080	CONNECTOR (MALE)	1	
IC3035	CG25123-5108	IC	1						
IC3036, 37	CY7C19920ZC	IC	2		Q3001	2SC2295-B	TRANSISTOR	1	
IC3101, 02	TCVHC257F	IC	2		Q3501	2SB709A-R	TRANSISTOR	1	
IC3103, 04	T74VHCT244F	IC	2						
IC3105	MC74HC125AF	IC	1		QR3501	UN2214	TRANSISTOR-RESISTOR	1	
IC3107	TC7S88F	IC	1						
IC3108, 08	NJM082BM	IC	2		R3101, 02	ERJ6GEYOR00	M. RESISTOR CH 1/10W	0 2	
IC3110	TC7S04F	IC	1		R3103-08	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 6	
IC3111, 12	74F244SJ	IC	2		R3109	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3113	T74LCX244F	IC	1		R3110-13	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 4	
IC3114	MC10H124M	IC	1		R3114	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3115-17	T74LCX244F	IC	3		R3115	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 1	
IC3118-20	T74VHC244F	IC	3		R3117	ERJ6GEYOR00	M. RESISTOR CH 1/10W	0 1	
IC3121	MC10H125M	IC	1		R3118, 19	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 2	
IC3122	T74LCX244F	IC	1		R3121	ERJ6GEYOR00	M. RESISTOR CH 1/10W	0 1	
IC3123-26	T74VHC245F	IC	4		R3123, 24	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 2	
IC3127	TC7S88F	IC	1		R3125-30	ERJ6GEYF472	M. RESISTOR CH 1/10W	4.7K 6	
IC3128	T74VHCT244F	IC	1		R3132	ERJ6GEYOR00	M. RESISTOR CH 1/10W	0 1	
IC3129	MC10H124M	IC	1		R3141, 42	ERJ6GEYOR00	M. RESISTOR CH 1/10W	0 2	
IC3130	TC7S88F	IC	1		R3143	ERJ6GEYF473	M. RESISTOR CH 1/10W	47K 1	
IC3131	T74VHC08F	IC	1		R3145	ERJ6GEYF123	M. RESISTOR CH 1/10W	12K 1	
IC3132	TCVHC257F	IC	1		R3146, 47	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 2	
IC3133	T74VHCT244F	IC	1		R3148	ERJ6GEYG273	M. RESISTOR CH 1/10W	27K 1	
IC3134-36	T74VHC244F	IC	3		R3149	ERJ6GEYG105	M. RESISTOR CH 1/10W	1M 1	
IC3137	TCVHC164F	IC	1		R3150	ERJ6GEYG102	M. RESISTOR CH 1/10W	1K 1	
IC3138	T74VHC74F	IC	1		R3152, 53	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 2	
IC3139	TCVHC02F	IC	1		R3154	ERJ6GEYG223	M. RESISTOR CH 1/10W	22K 1	
IC3140	TC7S00F	IC	1		R3155	ERJ6GEYG272	M. RESISTOR CH 1/10W	2.7K 1	
IC3141-44	74ALS541SJ	IC	4		R3156	ERJ6GEYG331	M. RESISTOR CH 1/10W	330 1	
IC3145	MC10H125M	IC	1		R3157	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 1	
IC3146, 47	T74LCX244F	IC	2		R3158	ERJ6GEYG105	M. RESISTOR CH 1/10W	1M 1	
IC3148	T74VHC74F	IC	1		R3159	ERJ6GEYJ471	M. RESISTOR CH 1/10W	470 1	
IC3149, 50	SN74S1051NS	IC	2		R3160	ERJ6GEYOR00	M. RESISTOR CH 1/10W	0 1	
IC3151, 52	74ALS541SJ	IC	2		R3161	ERJ6GEYF473	M. RESISTOR CH 1/10W	47K 1	
IC3153	74ALS245ASJ	IC	1		R3162, 63	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 2	
IC3154	74AC139SJ	IC	1		R3164	ERJ6GEYG223	M. RESISTOR CH 1/10W	22K 1	
IC3156	T74VHC244F	IC	1		R3165	ERJ6GEYG105	M. RESISTOR CH 1/10W	1M 1	
IC3157	TC7S04F	IC	1		R3166	ERJ6GEYG102	M. RESISTOR CH 1/10W	1K 1	
IC3158	T74VHC244F	IC	1		R3167	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3159-61	TCVHC257F	IC	3		R3168, 69	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 2	
IC3162	T74VHC74F	IC	1		R3171-75	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 5	
IC3163, 64	T74VHCT244F	IC	2		R3176	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3165, 66	T74VHC245F	IC	2		R3177-79	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 3	
IC3167, 68	T74VHC244F	IC	2		R3181, 82	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 2	
IC3169	TC7S04F	IC	1		R3185-88	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 4	
IC3171	TC7S04F	IC	1		R3189-92	ERJ6GEYJ471	M. RESISTOR CH 1/10W	470 4	
IC3172	TC7S32F	IC	1		R3193	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3201	NJM78L09UA	IC	1		R3195-01	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 7	
IC3202	NJM78L09UA	IC	1		R3202	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3203	NJM78L05UA	IC	1		R3203-06	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 4	
IC3204	XC62AS00XXP	IC	1		R3211	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3205	XC62AP3202P	IC	1		R3212-19	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 8	
IC3206	XC62AP2302P	IC	1		R3220	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3207, 08	XC62AP3202P	IC	2		R3221-28	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 8	
IC3209	XC62AP2302P	IC	1		R3241-48	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 8	
IC3210, 11	XC62AP3202P	IC	2		R3249	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3501	M37709M4L165	IC	1		R3250-57	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 8	
IC3502	S80727ANDQ	IC	1		R3258	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3503	T74VHC08F	IC	1		R3259, 60	ERJ6GEYOR00	M. RESISTOR CH 1/10W	0 2	
IC3504	T74VHC04F	IC	1		R3271	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
IC3505	XC62AP3202P	IC	1		R3272-75	ERJ6GEYG103	M. RESISTOR CH 1/10W	10K 4	
IC3507, 08	TC7S88F	IC	2		R3276-81	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 6	
IC3601	M37709M4L165	IC	1		R3282, 83	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 2	
IC3603	T74VHC08F	IC	1		R3284	ERJ6GEYG101	M. RESISTOR CH 1/10W	100 1	
					R3285-87	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 3	
L3101-06	VLQ0319K470	COIL 47UH	6		R3289-91	ERJ6GEYG470	M. RESISTOR CH 1/10W	47 3	

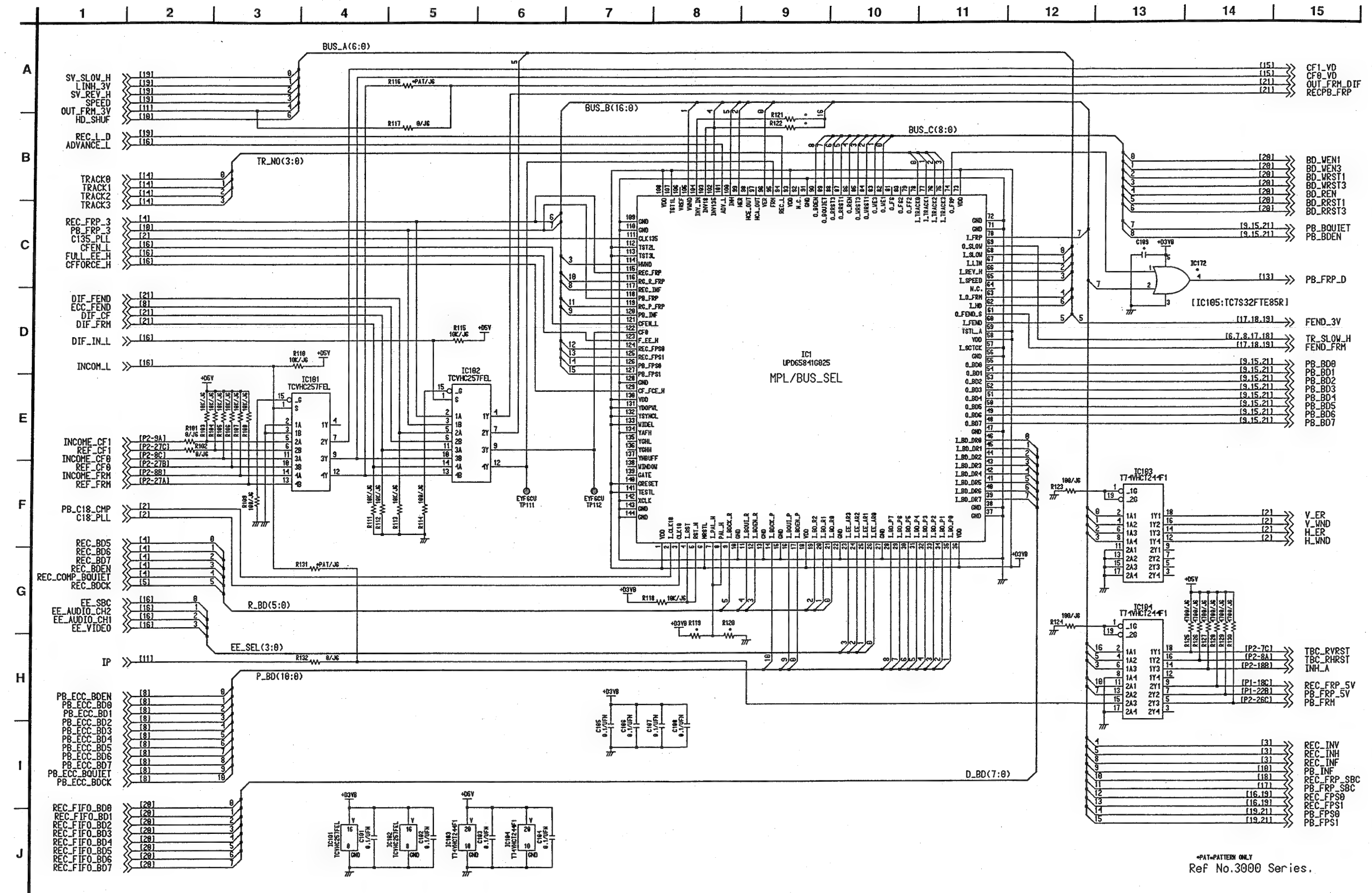
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R3292	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3541.42	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2	
R3294-02	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	9		R3544	ERJ8GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3303-08	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	4		R3545	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3311	ERJ8GEYG223	M. RESISTOR CH 1/10W 22K	1		R3546	ERJ8GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3312-22	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	11		R3547	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3331	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3548	ERJ8GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3332	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1		R3549	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3333.34	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	2		R3551	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3335-38	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	4		R3552	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3339-42	ERJ8GEYJ471	M. RESISTOR CH 1/10W 470	4		R3555.58	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3351	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3572-74	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	3	
R3352	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	1		R3578-84	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	19	
R3353	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1		R3597.88	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3361.62	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2		R3601.02	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R3363	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		R3603-07	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	5	
R3364	ERJ8GEYG223	M. RESISTOR CH 1/10W 22K	1		R3609.10	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2	
R3365-69	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	5		R3612.13	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3370.71	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2		R3614	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3372-74	ERJ8GEYG273	M. RESISTOR CH 1/10W 27K	3		R3615	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3382	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3616.17	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2	
R3383	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		R3618	ERJ8GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3384-69	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	6		R3621.22	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3390	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		R3623.24	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2	
R3393	ERJ8GEYF581	M. RESISTOR CH 1/10W 580	1		R3625	ERJ8GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3394	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	1		R3627	ERJ8GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3397	ERJ8GEYF581	M. RESISTOR CH 1/10W 580	1		R3628	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3398	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	1		R3629	ERJ8GEYG104	M. RESISTOR CH 1/10W 100K	1	
R3399	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3632.33	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3400	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	1		R3639-49	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	11	
R3401	ERJ8GEYF393	M. RESISTOR CH 1/10W 39K	1		R3651	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3404	ERJ8GEYF581	M. RESISTOR CH 1/10W 580	1		R3652.53	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R3405	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	1		R3654.55	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R3411	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		R3656.57	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2	
R3422	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1		R3673-75	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	3	
R3424-27	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	4		R3701	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3428	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3703	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3429-31	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	3		R3708	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3434-36	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	3		R3709	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3437	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		R3710	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3454	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3722	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	1	
R3456	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		R3725-32	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	8	
R3481	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1		R3737-39	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	3	
R3483.64	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2		R3743-46	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	4	
R3471	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1		R3747-51	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	5	
R3472	ERJ8GEYG271	M. RESISTOR CH 1/10W 270	1		R3752	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3473	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		R3753	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3481	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1		R3754	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R3483-88	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	6		R3781.62	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R3491.92	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2		R3783-86	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	4	
R3495	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1		R3787-74	ERJ8GEYG272	M. RESISTOR CH 1/10W 2.7K	8	
R3499	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		R3775	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R3501	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		R3776	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3502.03	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	2		R3777	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R3504.05	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2		R3781-88	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	8	
R3508.07	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	2		R3789-94	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	6	
R3508-10	ERJ8R8D472	M. RESISTOR CH 1/10W 4.7K	3		R3795-09	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	15	
R3511	ERJ8GEYF473	M. RESISTOR CH 1/10W 47K	1		R3811-13	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	3	
R3512-14	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	3		R3815.16	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3515	ERJ8GEYF473	M. RESISTOR CH 1/10W 47K	1		R3818	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3517-19	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	3		R3820	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3520	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3823.24	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R3521.22	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2		R3825-32	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	8	
R3523	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		R3851.52	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2	
R3524	ERJ8GEYF473	M. RESISTOR CH 1/10W 47K	1		R3853	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1	
R3525	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1		R3854.55	ERJ8GEYG273	M. RESISTOR CH 1/10W 27K	2	
R3527.28	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2		R3861-86	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	6	
R3529	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1		R3869-84	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	16	
R3530	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R3885	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	1	
R3531.32	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2		R3887.88	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R3533	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R3889	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	1	
R3534	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R3890.91	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R3535.38	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2		R3892-07	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	16	
R3537	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1		R3908	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R3538	ERJ8GEYG271	M. RESISTOR CH 1/10W 270	1						
R3539.40	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2		SW3101	VSS0367-04TB	SWITCH	1	

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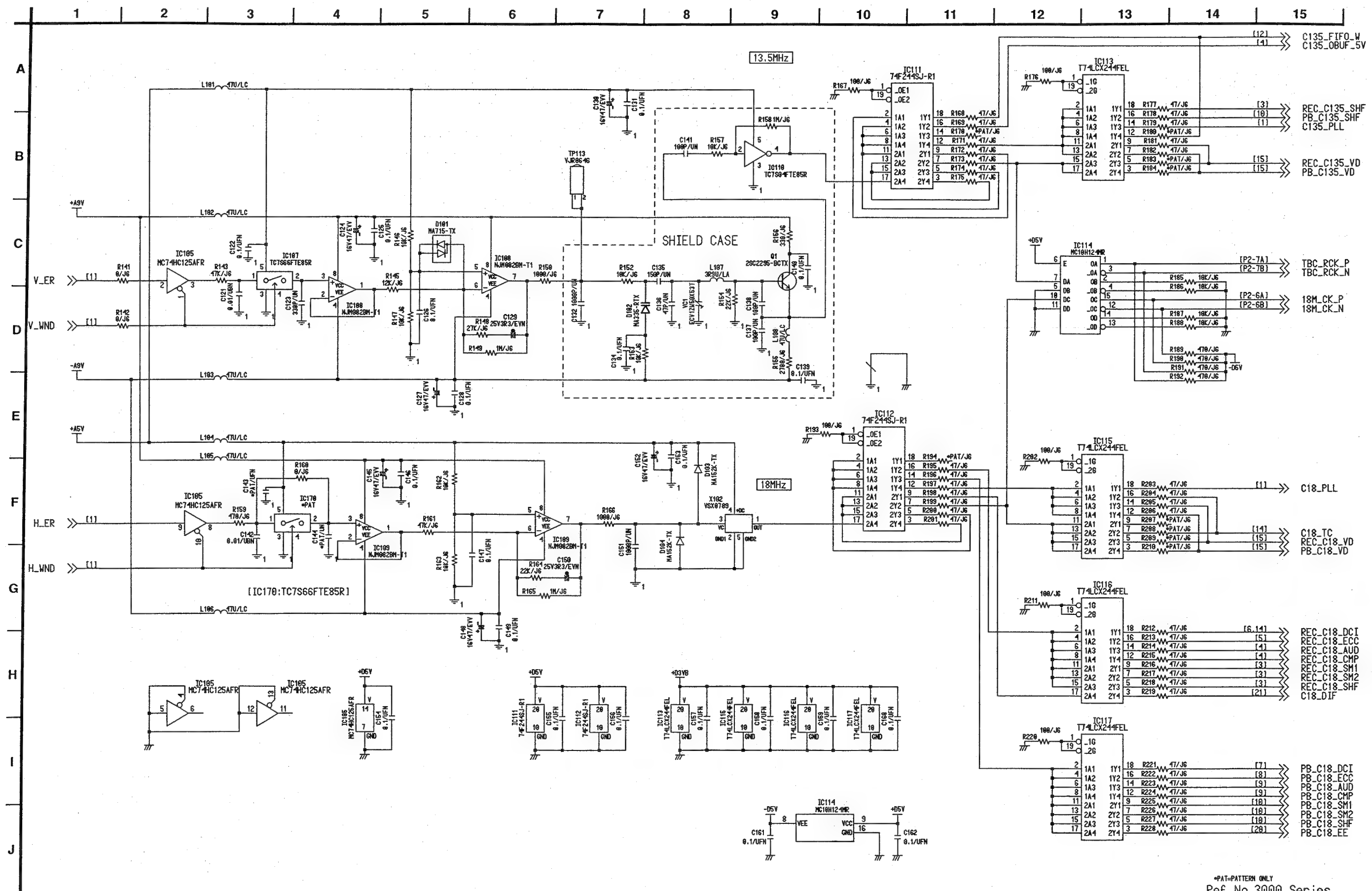
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TG3101	VJR0648	TEST POINT	1	
TG3102	EYF6CU	TEST POINT	1	
TG3501	EYF6CU	TEST POINT	1	
TP3101-08	EYF6CU	TEST POINT	8	
TP3108-12	EYF6CU	TEST POINT	5	
TP3113	VJR0648	TEST POINT	1	
TP3114	EYF6CU	TEST POINT	1	
TP3501.02	EYF6CU	TEST POINT	2	
TP3601.02	EYF6CU	TEST POINT	2	
VC3001	ECV1ZW50X53T	TRIMMER	1	
VR3101-03	EVMEGSA00B24	V.RESISTOR 20K	3	
X3102	VSX0789	CRYSTAL OSCILLATOR	1	
X3103	VSX0845-B	CRYSTAL OSCILLATOR	1	
X3501	VSX0837-T	CRYSTAL OSCILLATOR	1	



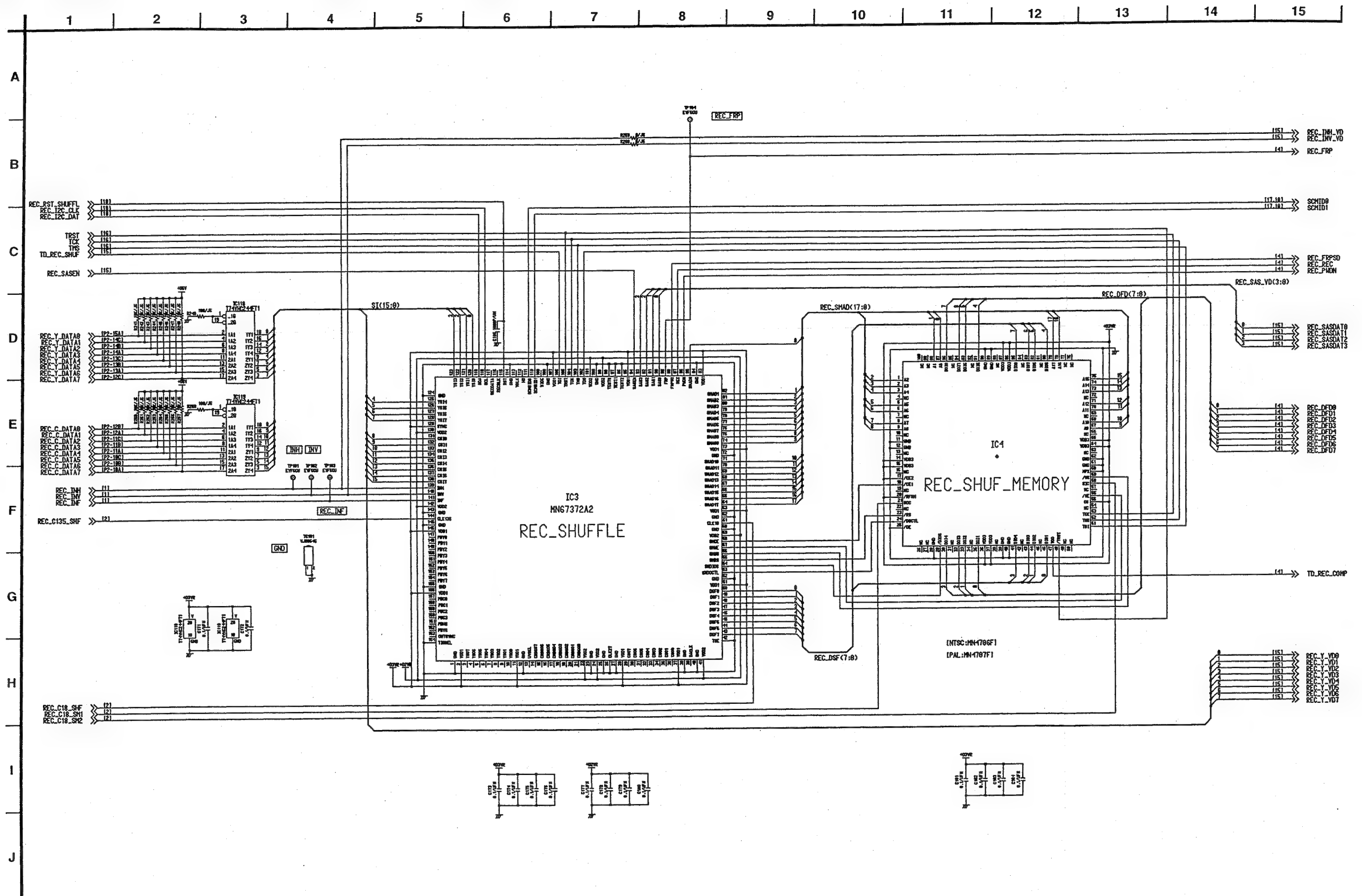
## REC PB MPL/BUS SEL (F5 1/23) SCHEMATIC DIAGRAM



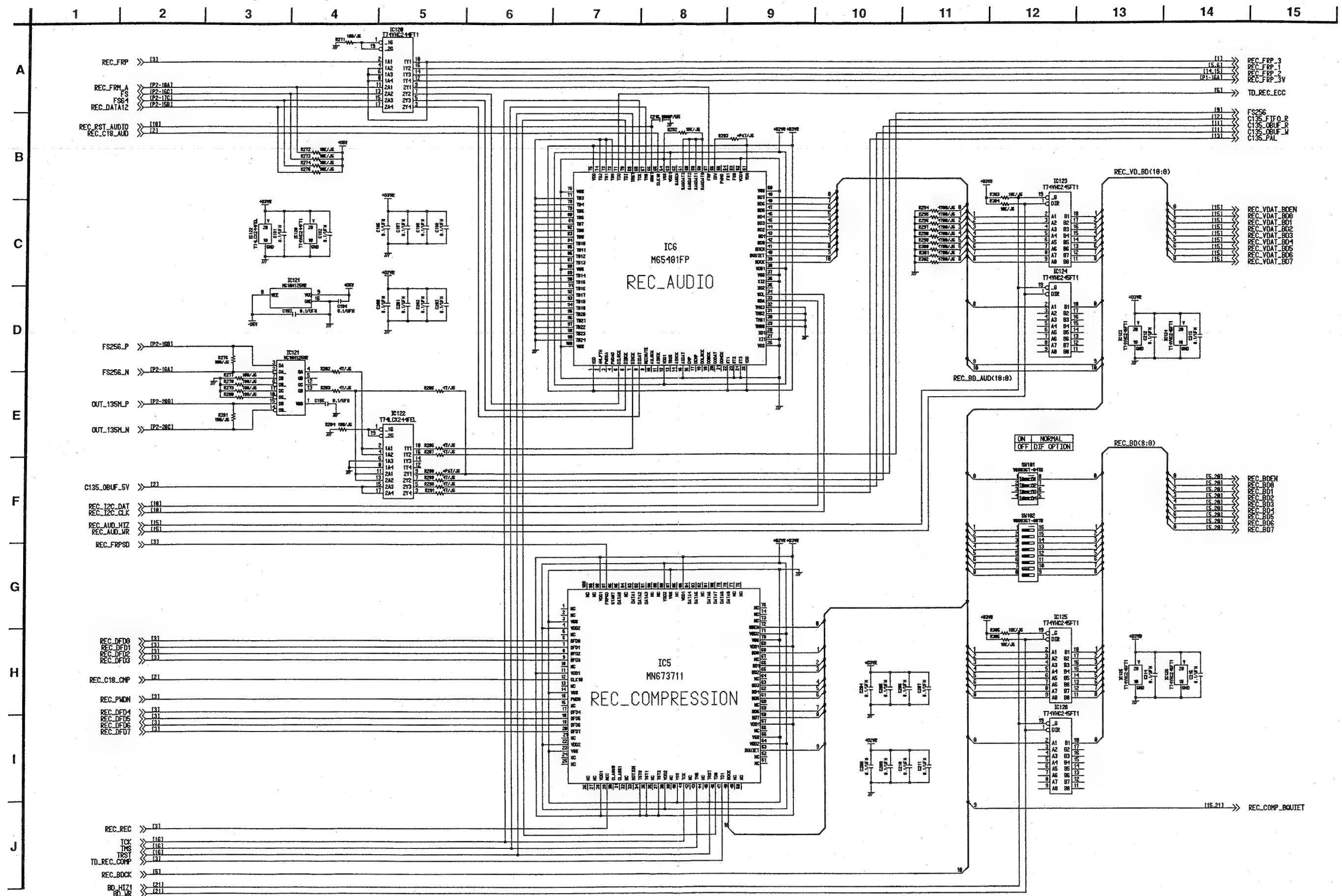
REC PB PLL (F5 2/23) SCHEMATIC DIAGRAM



## REC PB REC SHUF (F5 3/23) SCHEMATIC DIAGRAM



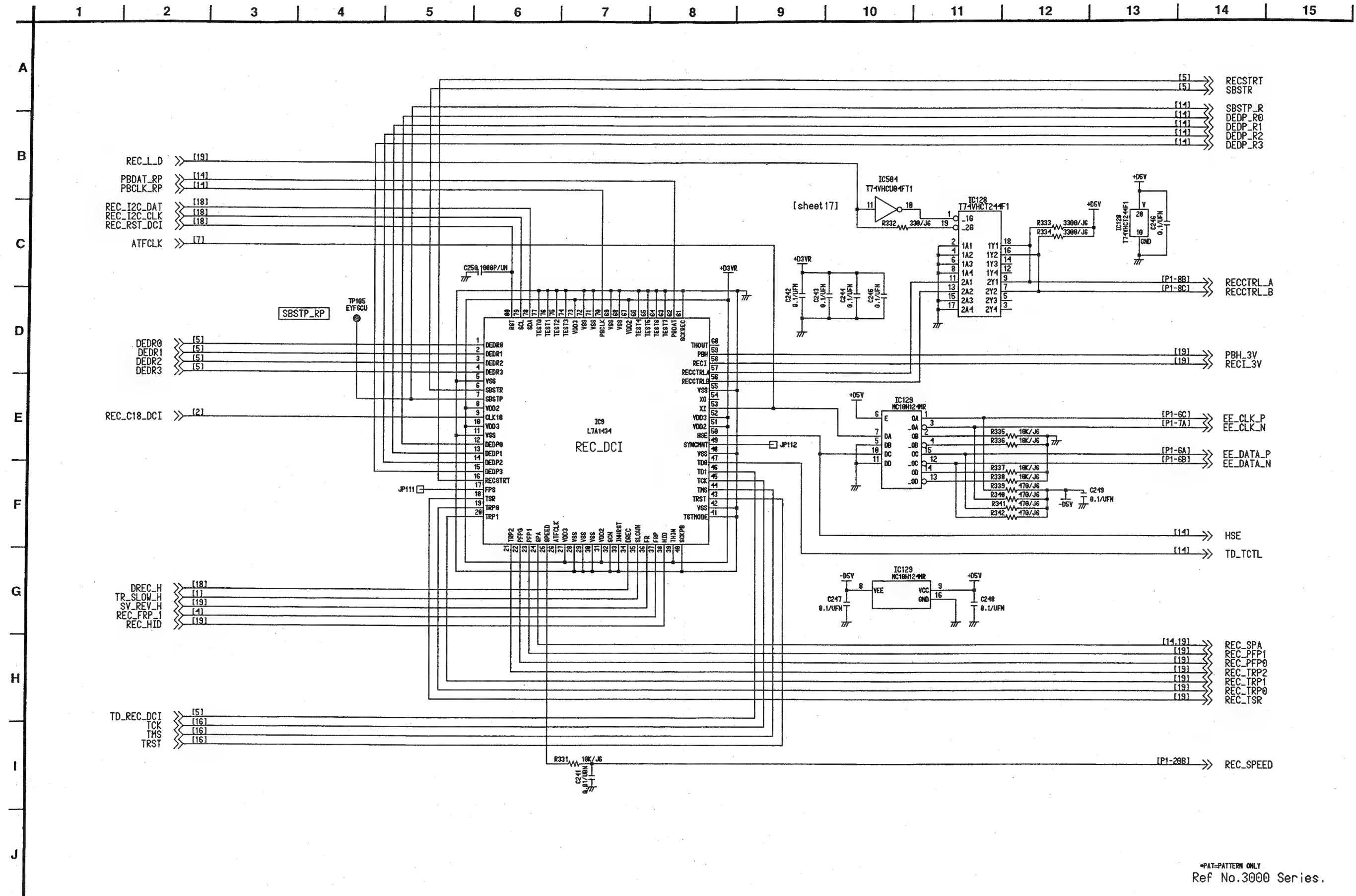
# REC PB REC COMP, AUD (F5 4/23) SCHEMATIC DIAGRAM



**2-90**



## REC PB REC DCI (F5 6/23) SCHEMATIC DIAGRAM

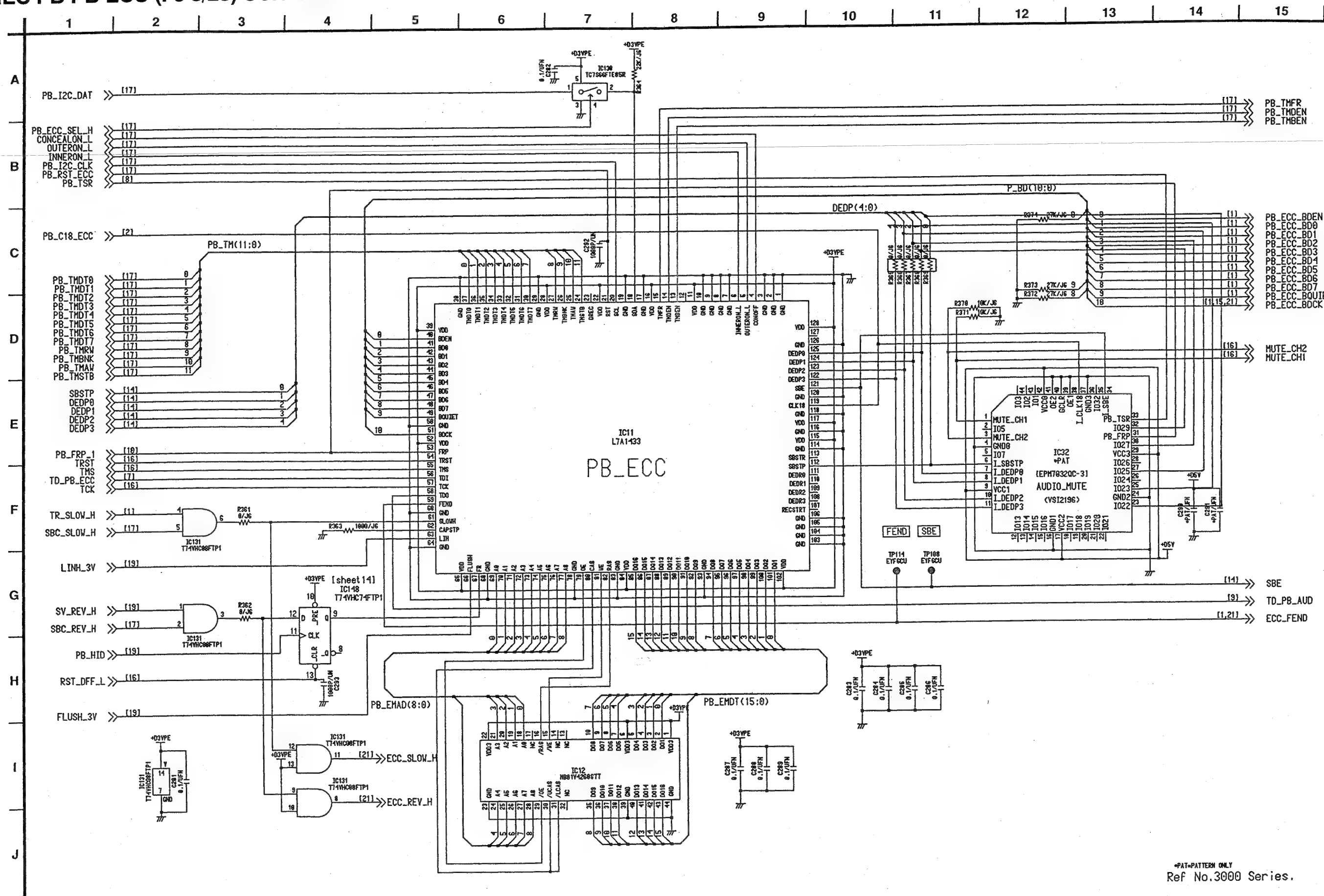




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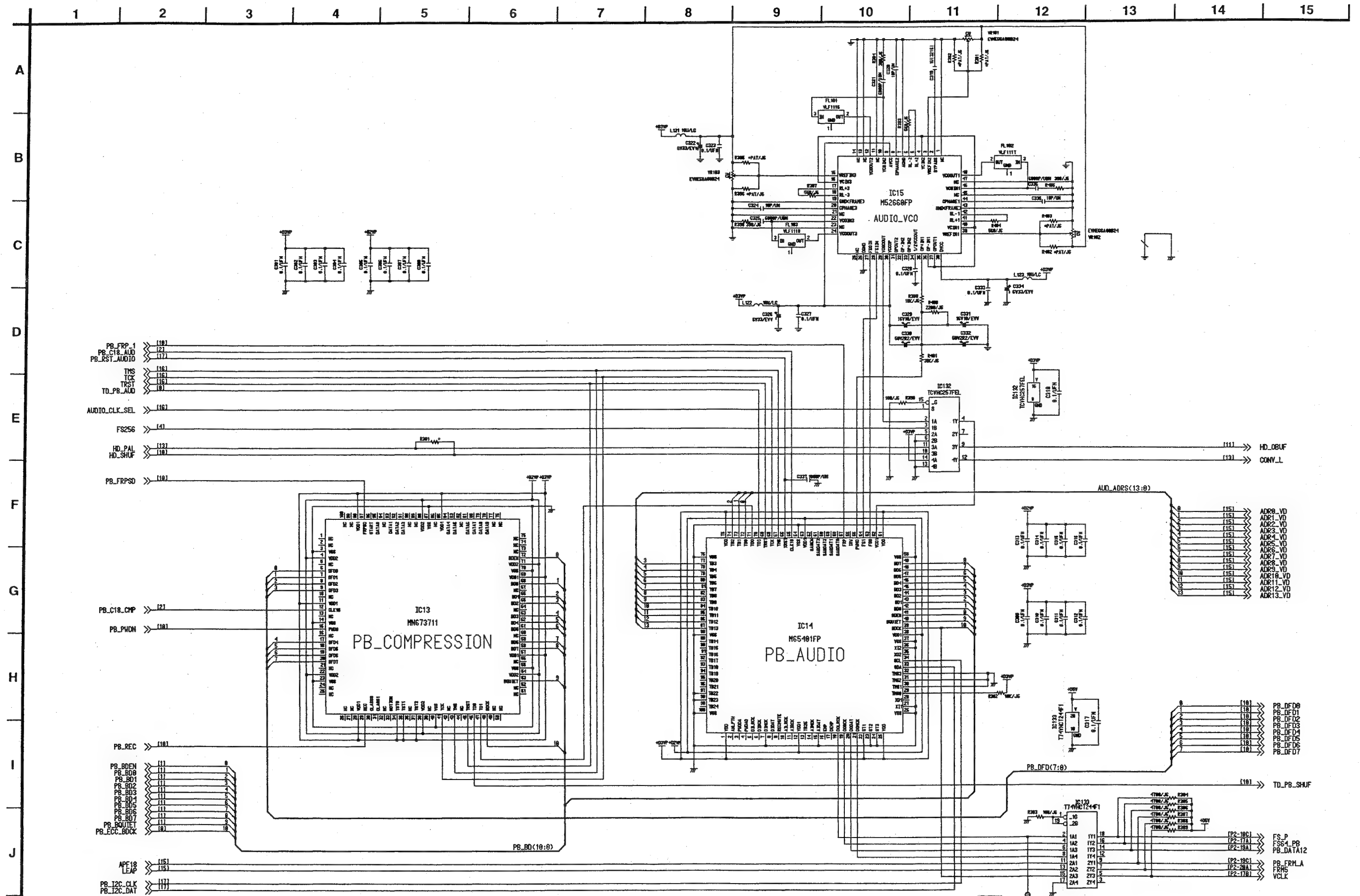


## REC PB PB ECC (F5 8/23) SCHEMATIC DIAGRAM

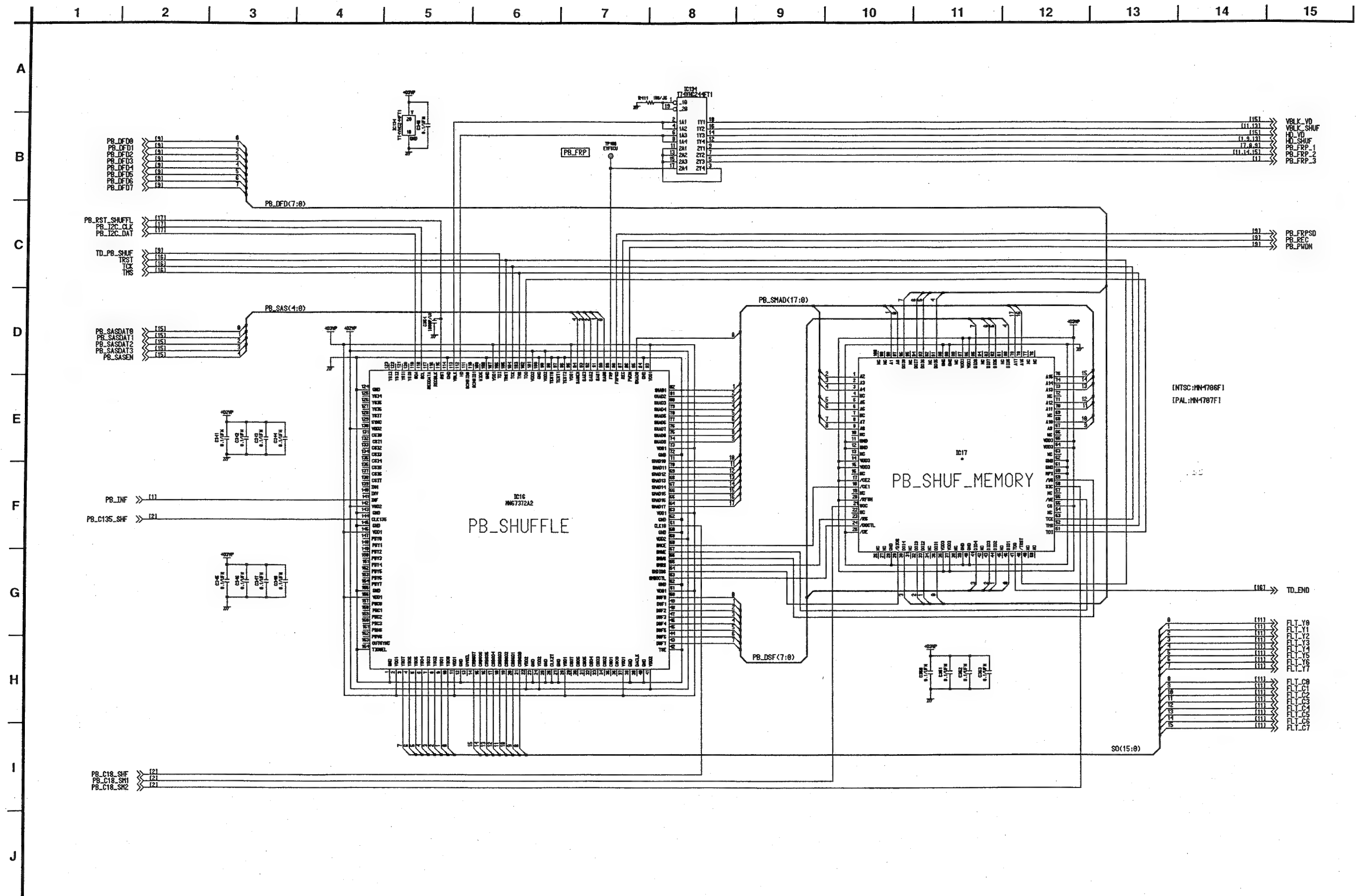




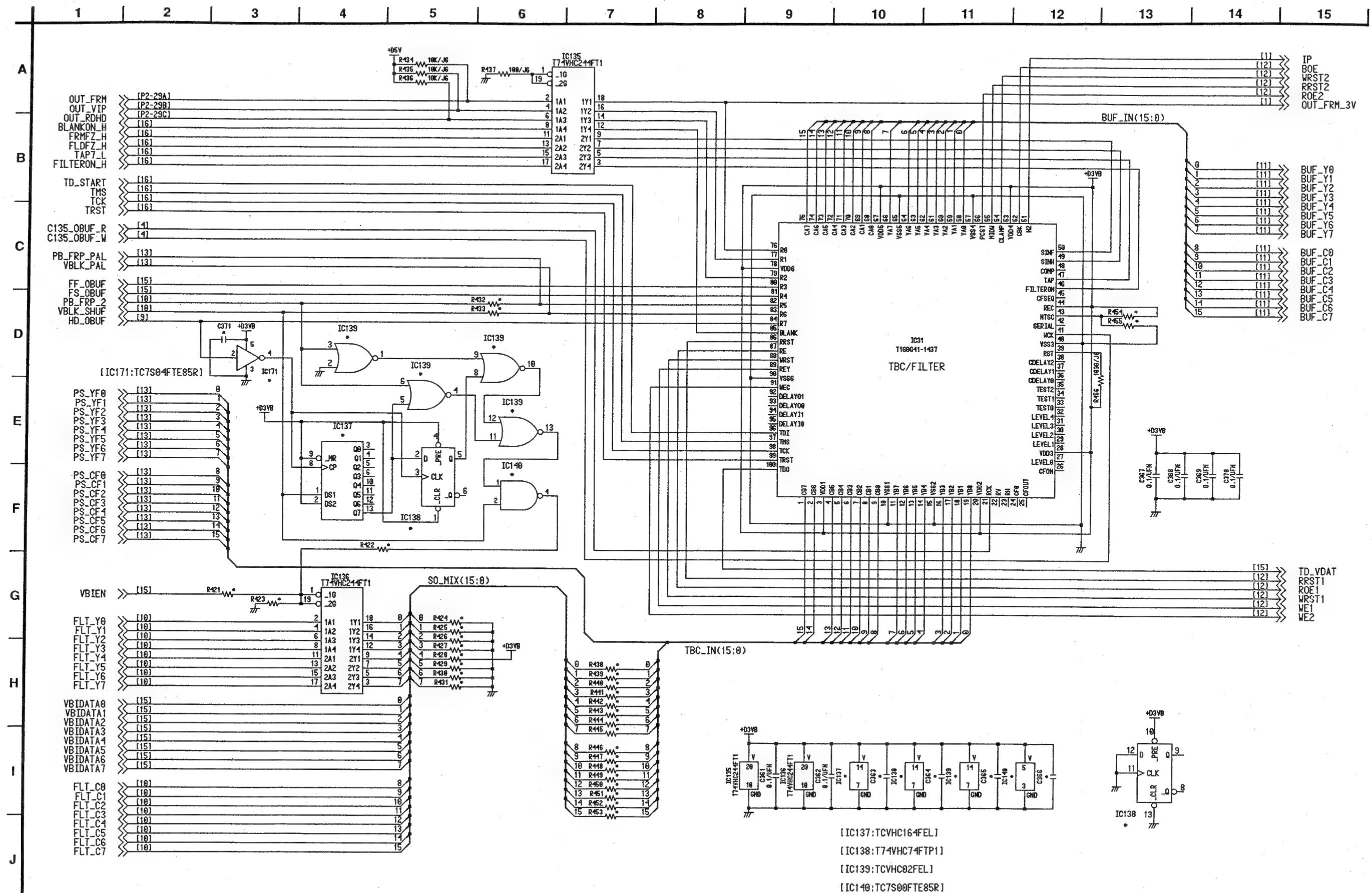
## REC PB PB AUD, COMP (F5 9/23) SCHEMATIC DIAGRAM



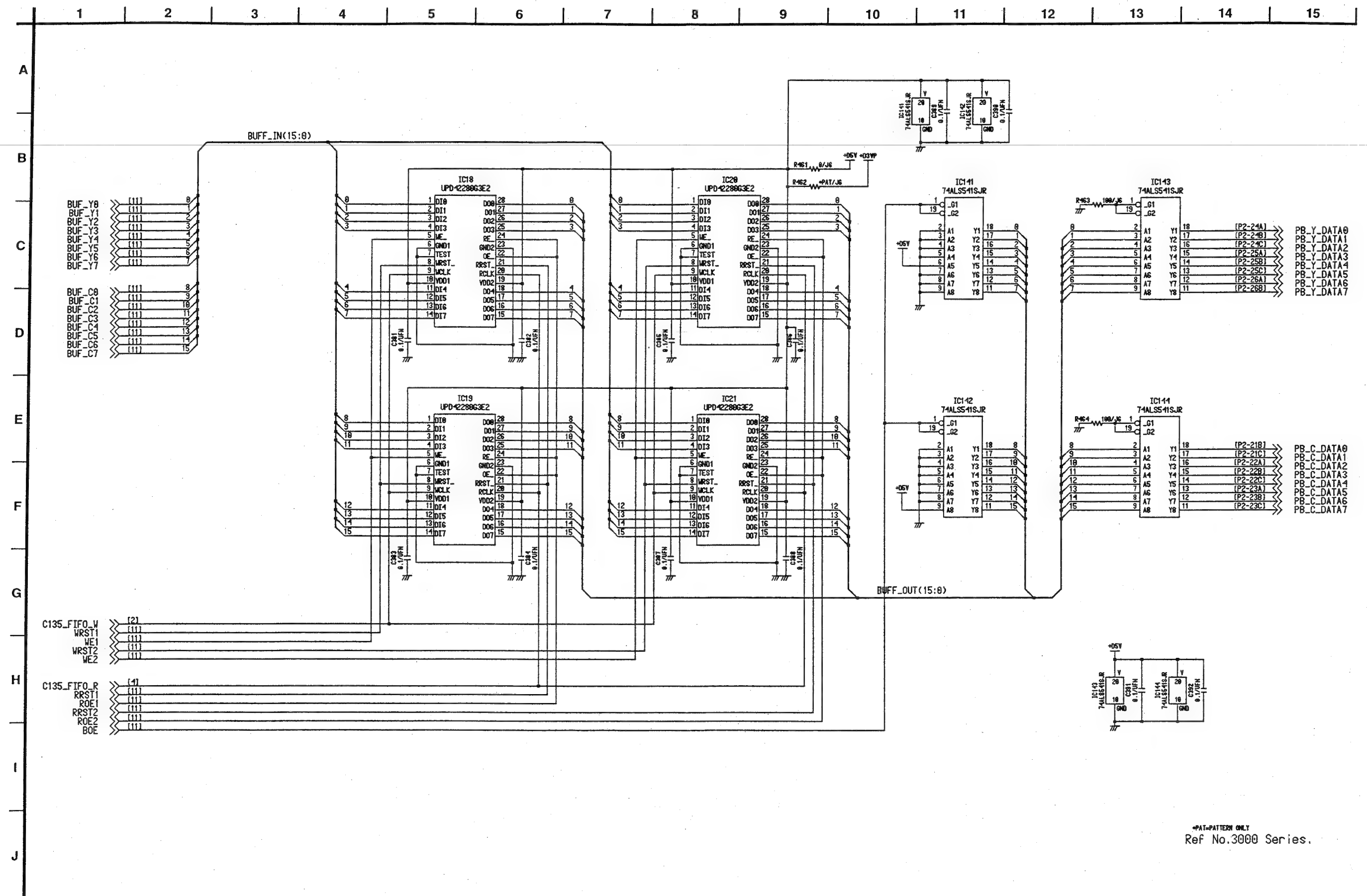
## REC PB PB SHUF (F5 10/23) SCHEMATIC DIAGRAM



## REC PB TBC/FILTER (F5 11/23) SCHEMATIC DIAGRAM



# REC PB OUT BUFF2 (F5 12/23) SCHEMATIC DIAGRAM

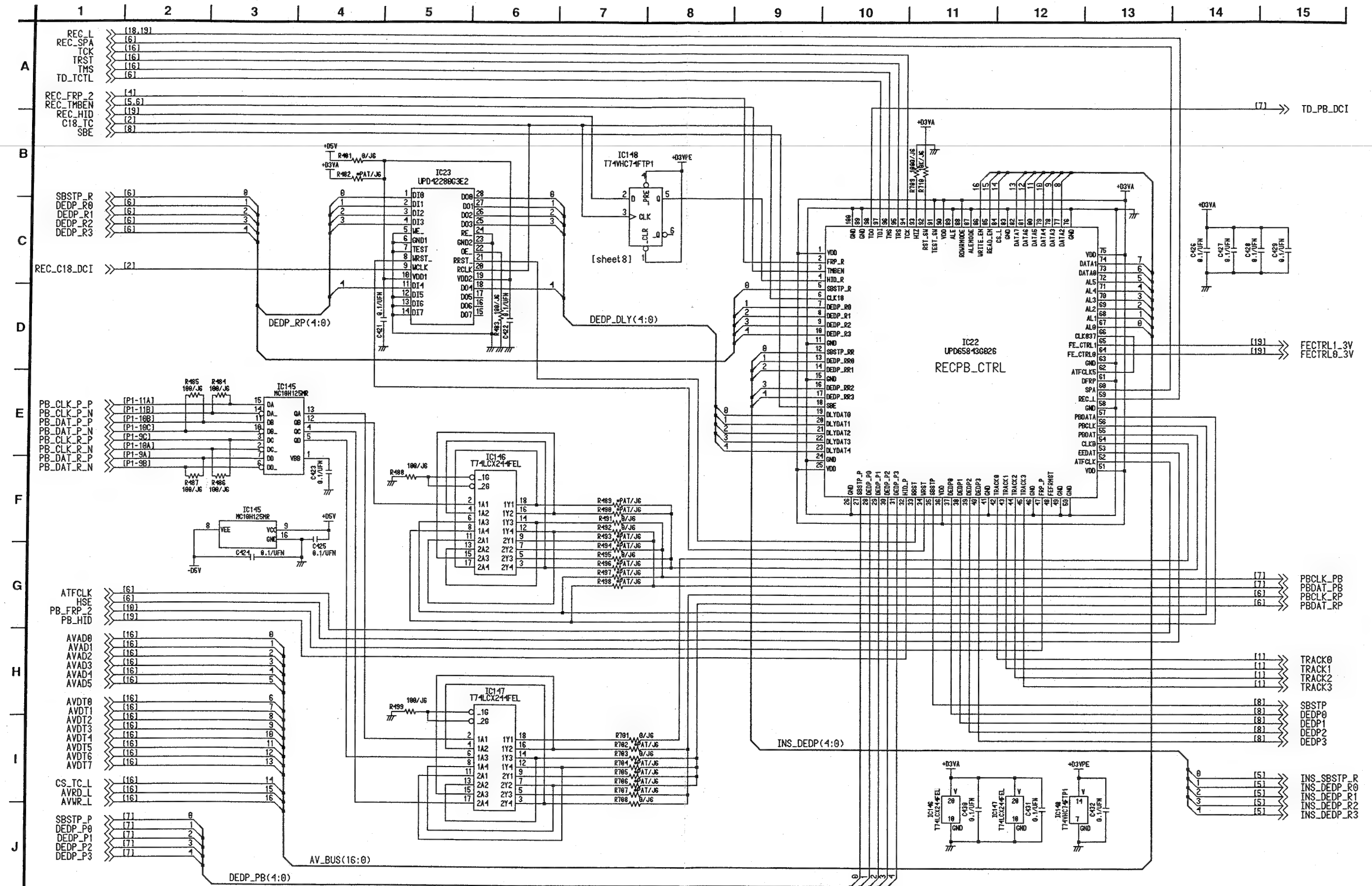


\*PAT= PATTERN ONLY  
Ref No.3000 Series.

**2-98**

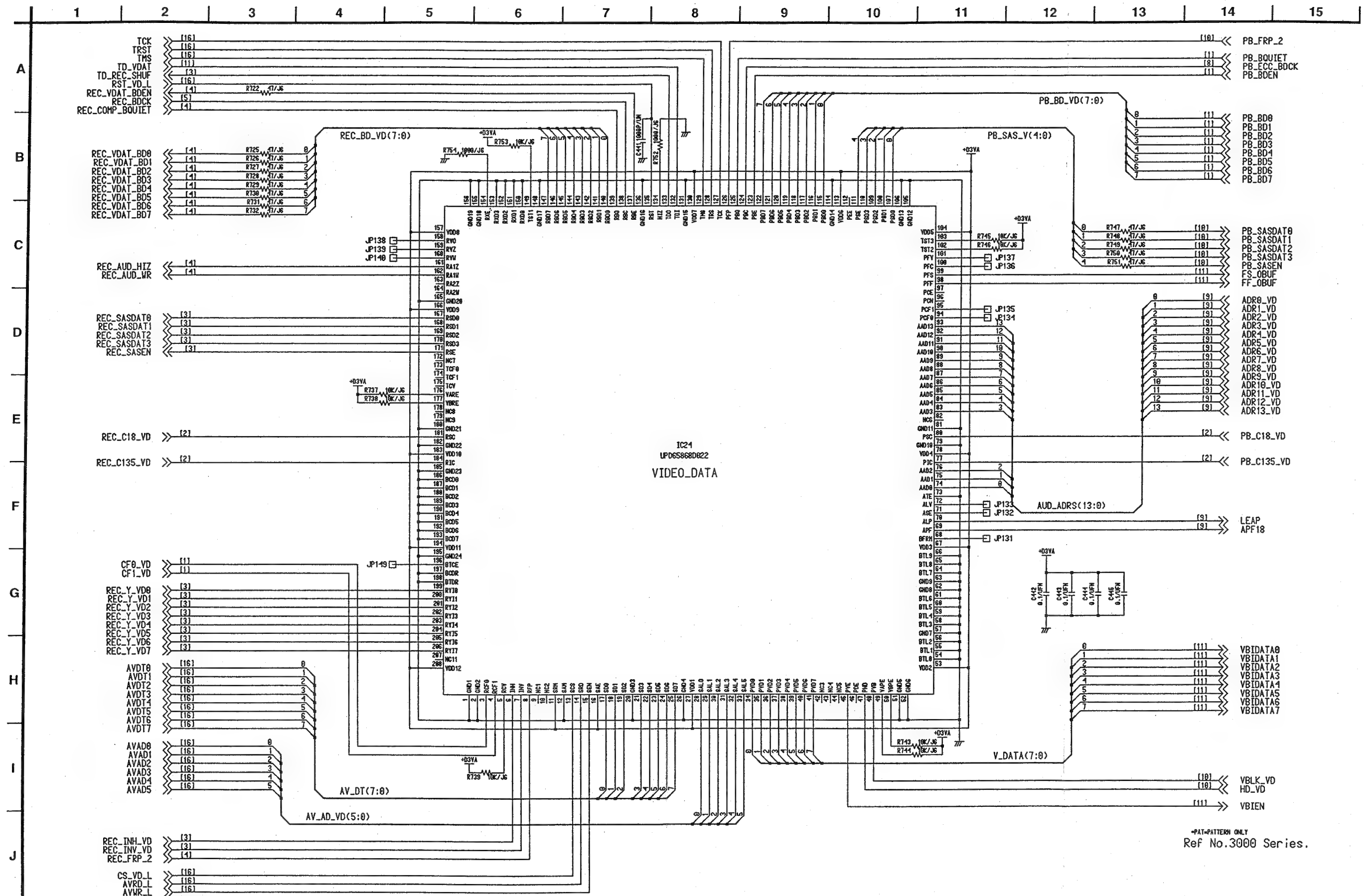


## REC PB REC PB CTRL (F5 14/23) SCHEMATIC DIAGRAM

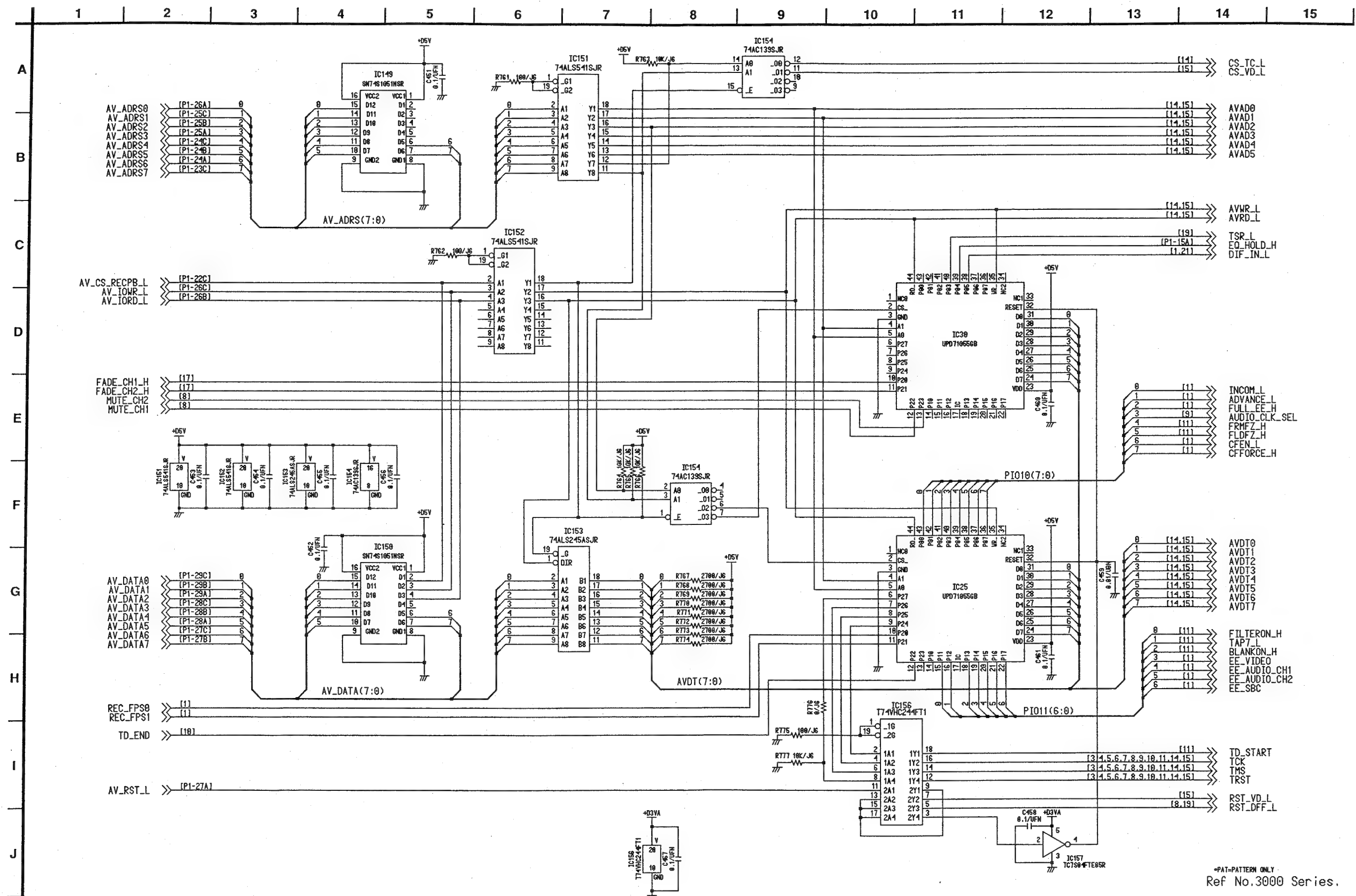




## REC PB VIDEO DATA (F5 15/23) SCHEMATIC DIAGRAM



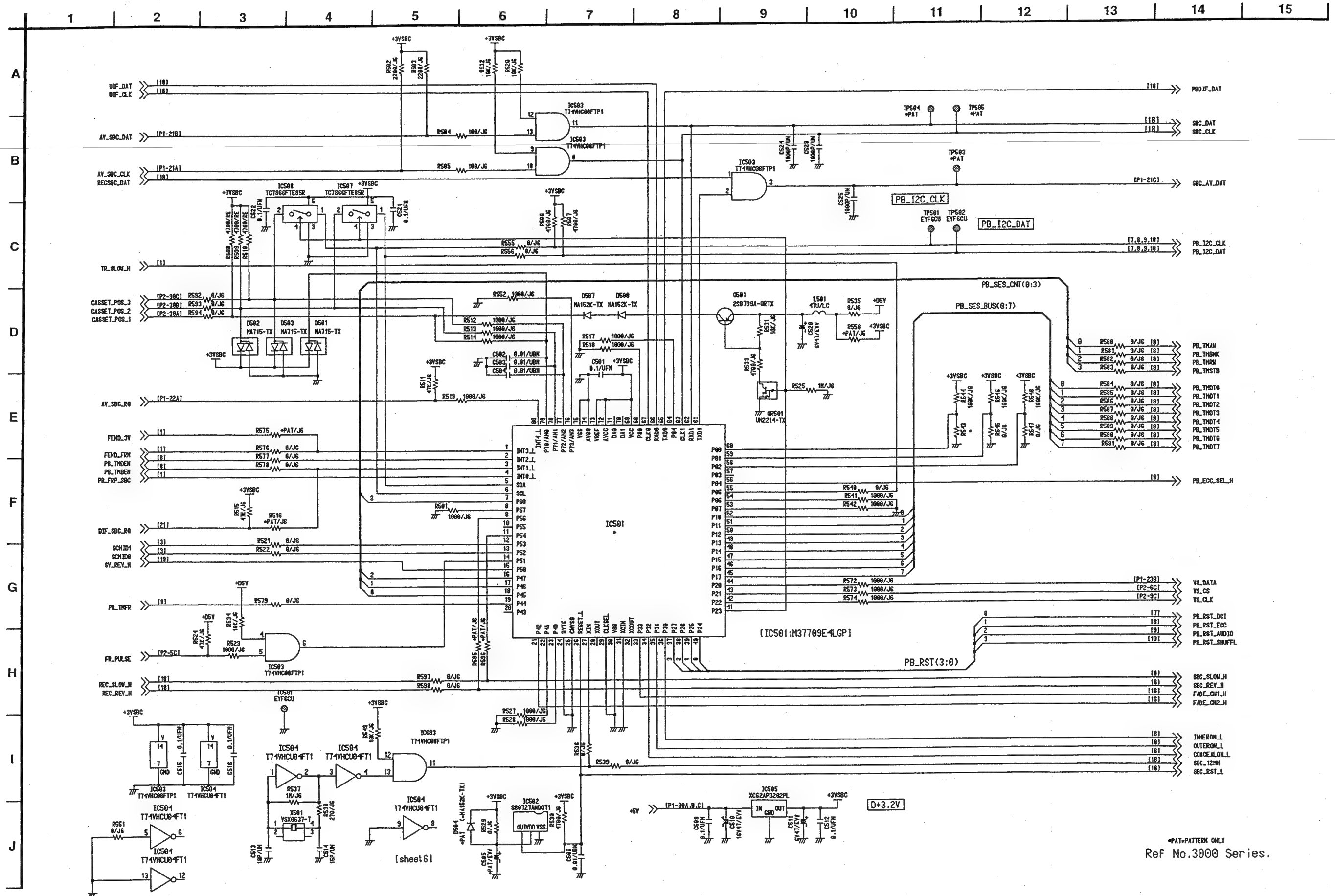
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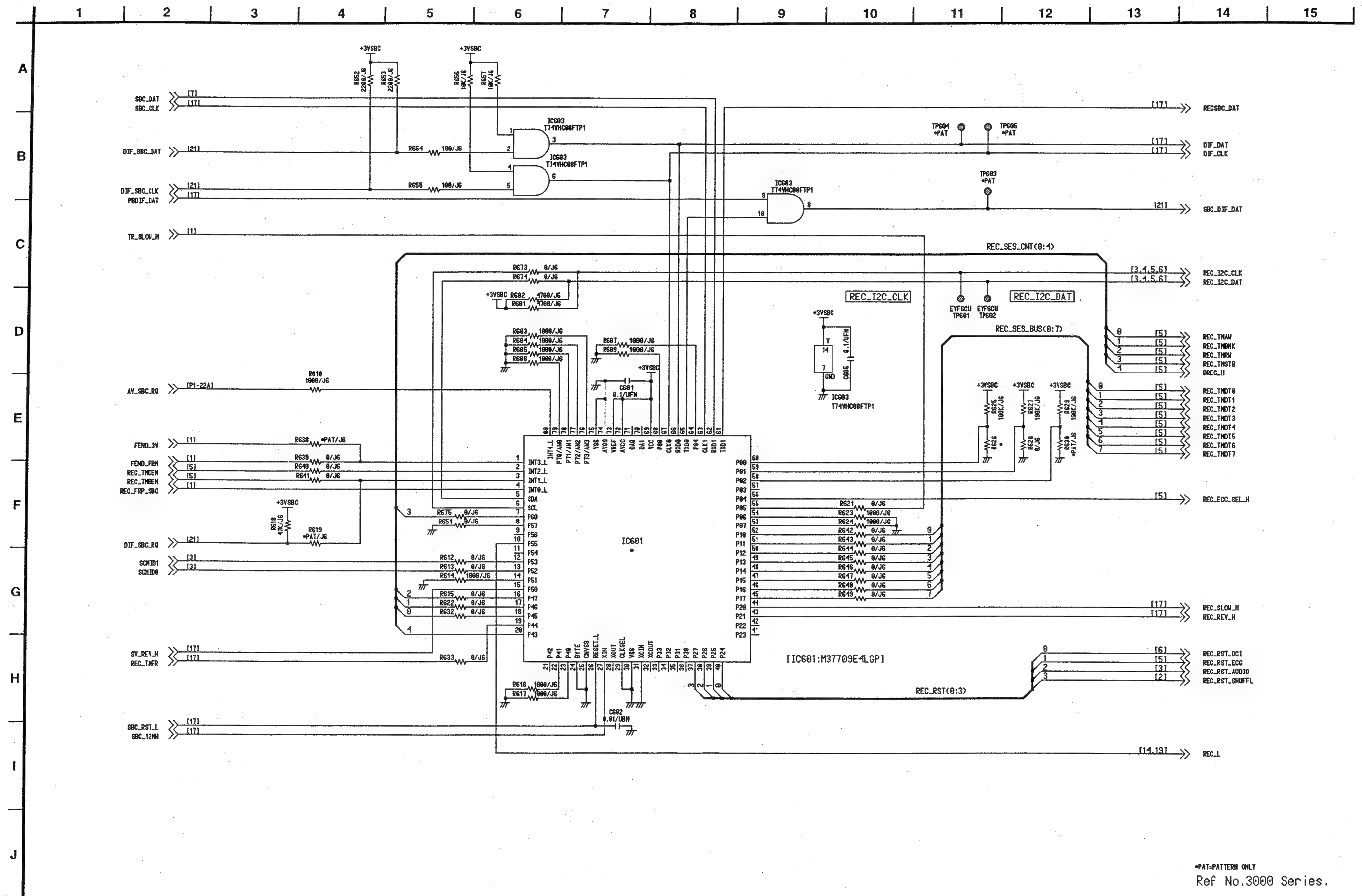
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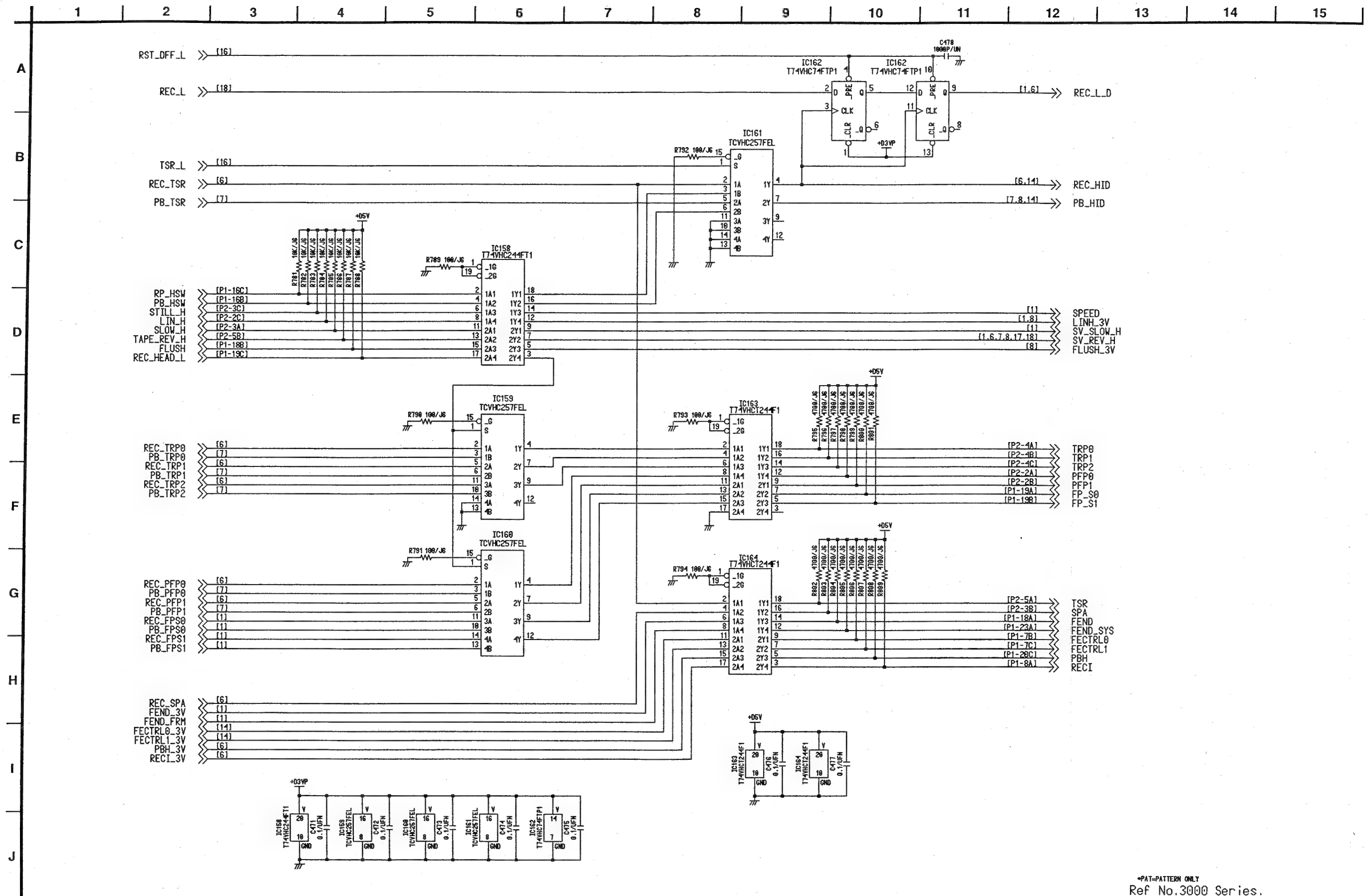
## REC PB SBC PB (F5 17/23) SCHEMATIC DIAGRAM



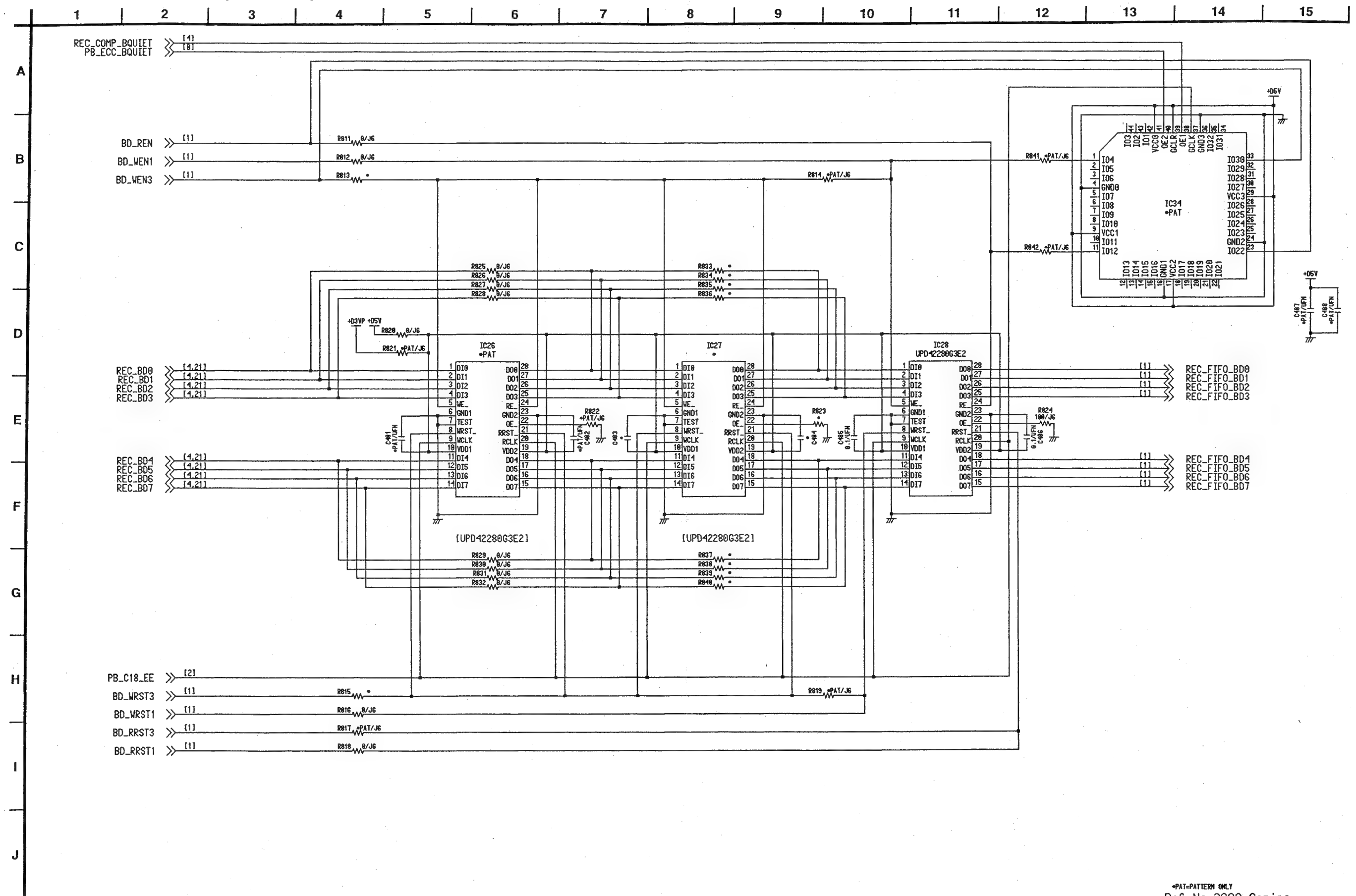
# REC PB SBC REC (F5 18/23) SCHEMATIC DIAGRAM



## REC PB SERVO SEPA (F5 19/23) SCHEMATIC DIAGRAM

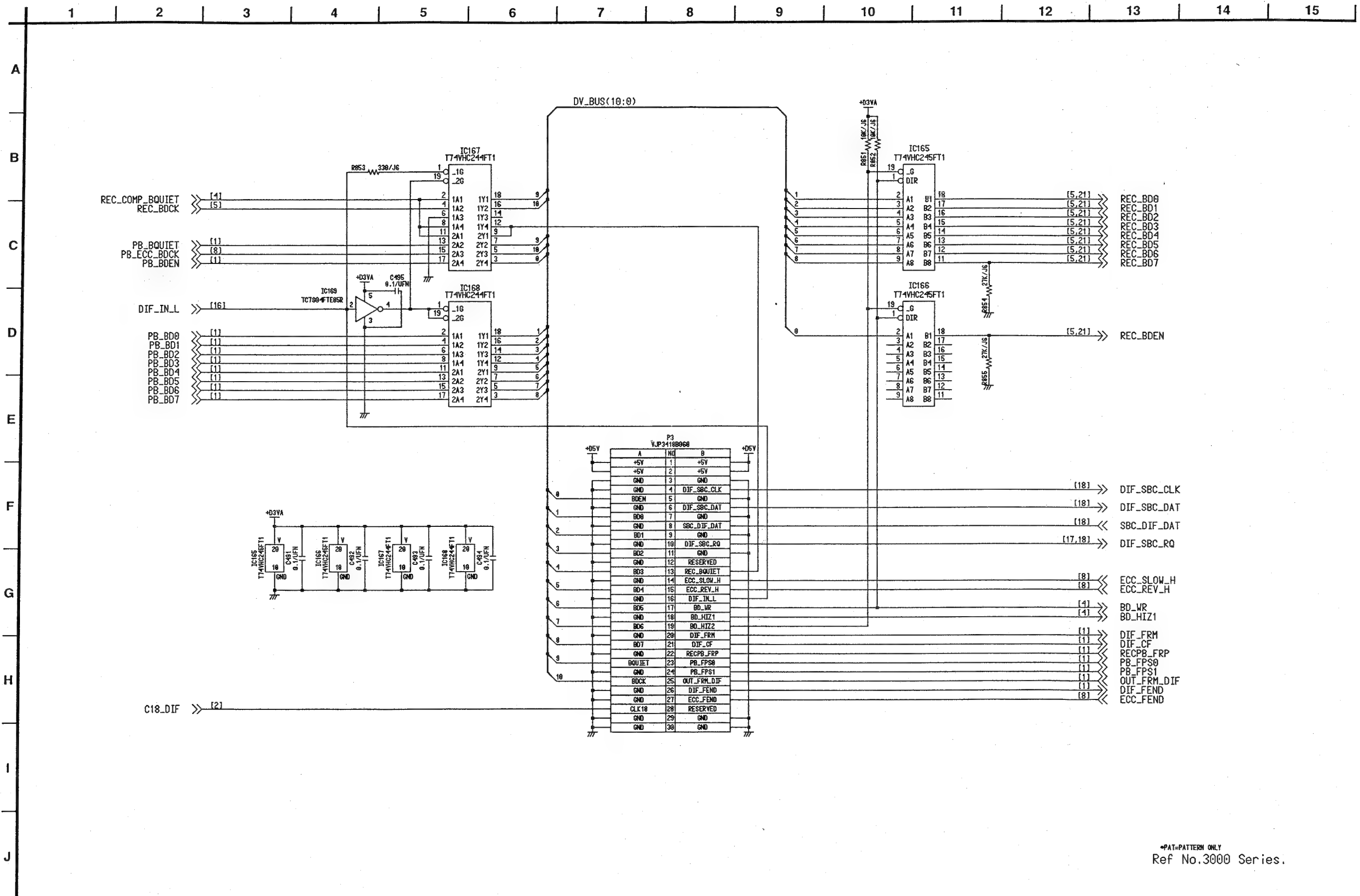


# REC PB DVC RETURN (F5 20/23) SCHEMATIC DIAGRAM



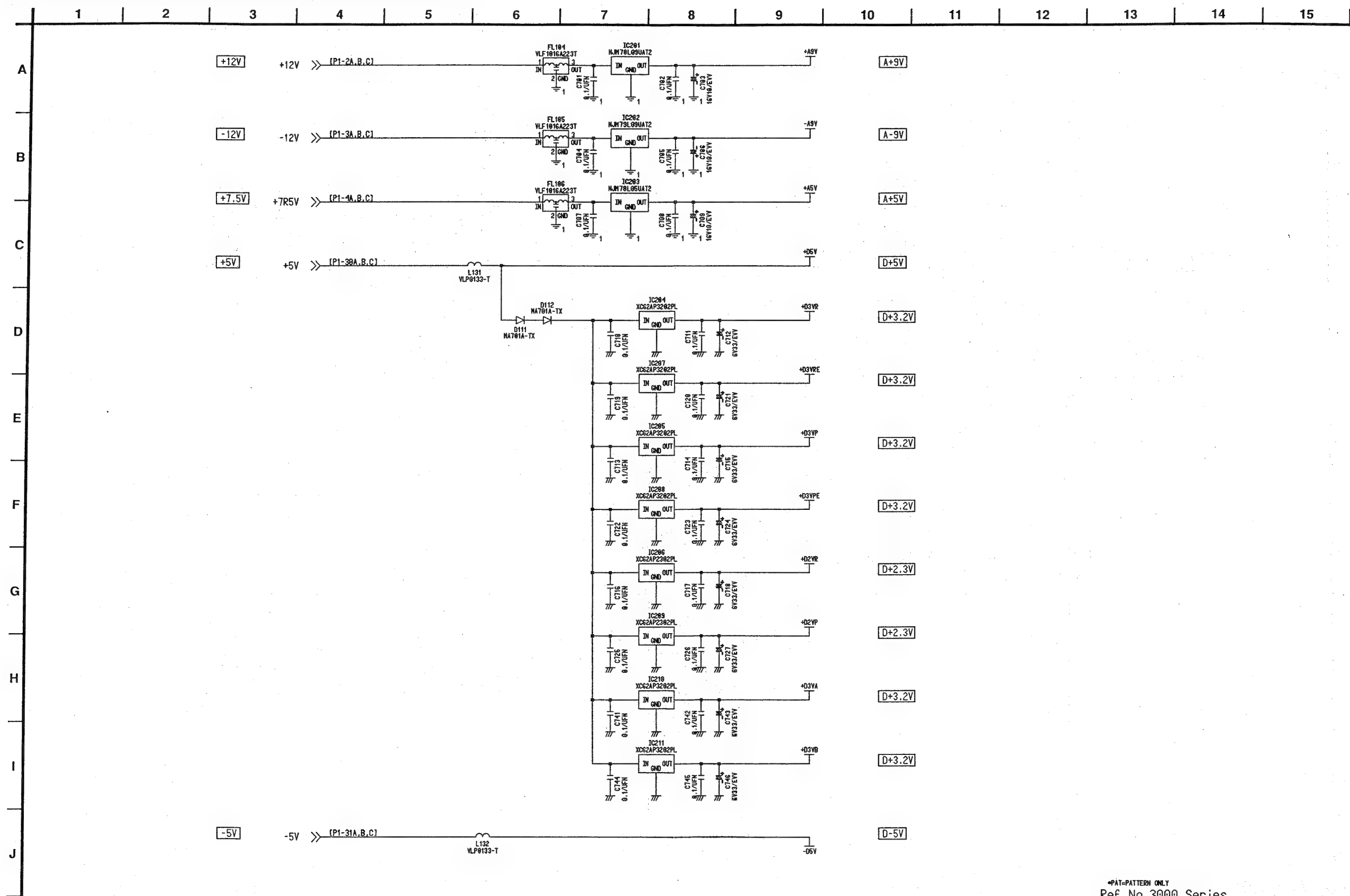
\*PAT=PATTERN ONLY  
Ref No.3000 Series.

## REC PB DIF (F5 21/23) SCHEMATIC DIAGRAM



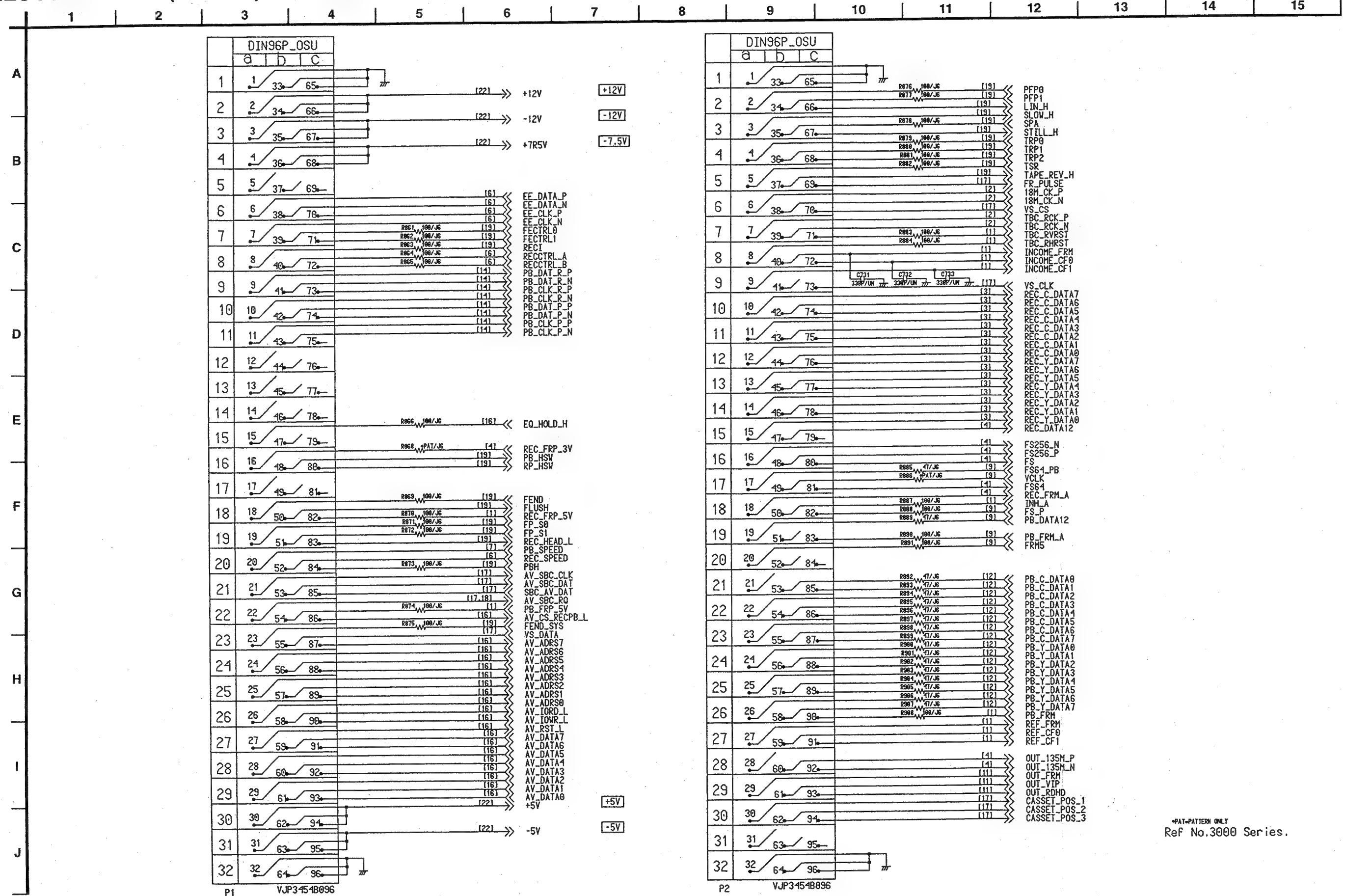
\*PAT= PATTERN ONLY  
Ref No.3000 Series.

REC PB POWER (F5 22/23) SCHEMATIC DIAGRAM



\*PAT-PATTERN ONLY  
Ref No.3000 Series.

## REC PB MOTHER (F5 23/23) SCHEMATIC DIAGRAM



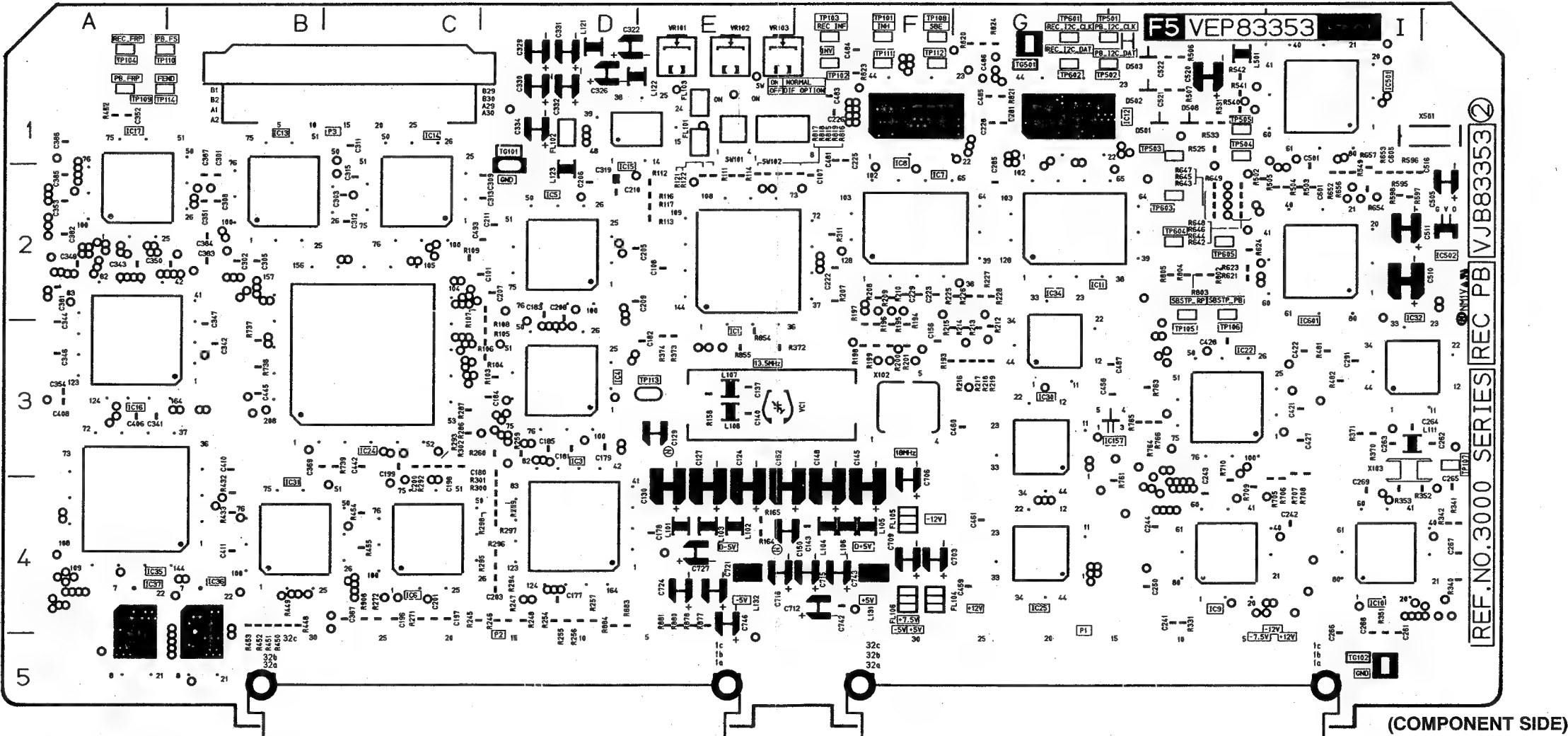
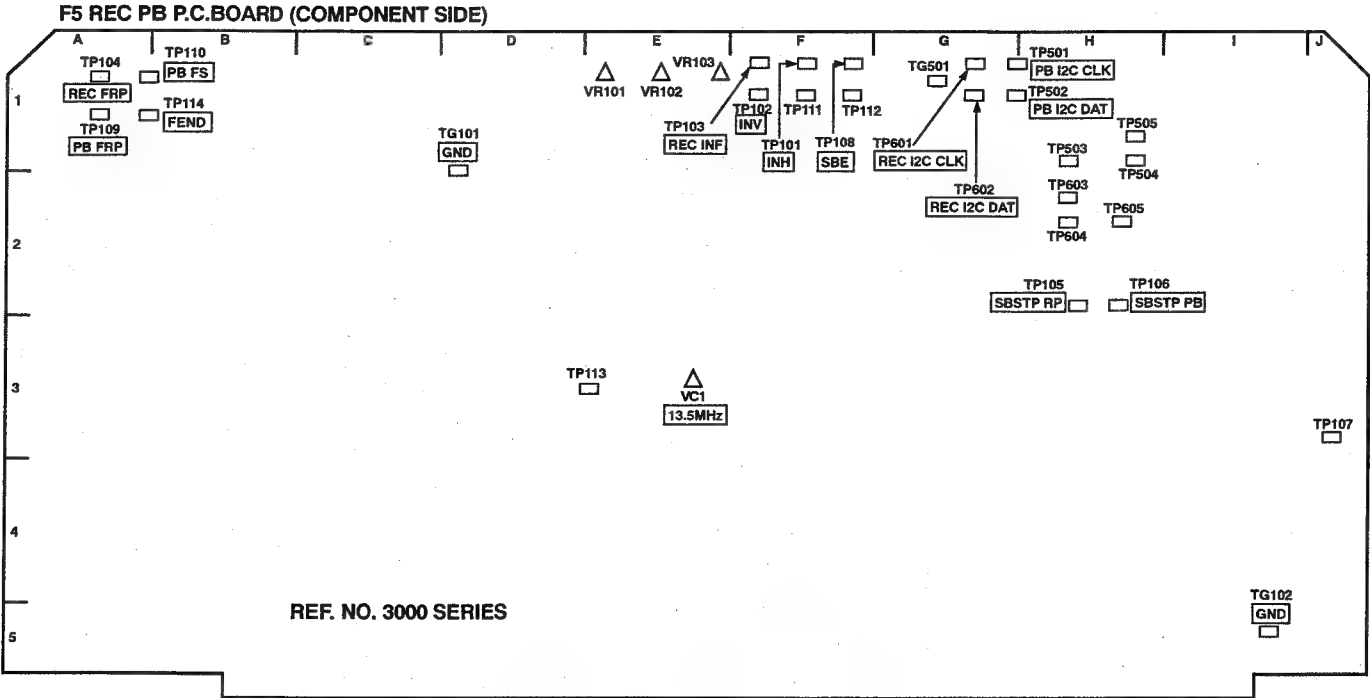
\*PAT-PATTERN ONLY  
Ref No.3000 Series.



F5 REC PB P.C.BOARD (VEP83353A) (FOR NTSC)  
(VEP83353B) (FOR PAL)

F5 REC PB (COMPONENT SIDE)					
Integrated Circuits					
IC1	E-2	IC35	A-4	TP114	A-1
IC3	D-4	IC36	B-4	TP501	G-1
IC4	D-3	IC37	A-4	TP502	G-1
IC5	D-2	IC501	H-3	TP503	H-1
IC6	C-4	IC502	I-1	TP504	H-1
IC7	F-2	IC601	J-2	TP505	H-1
IC8	F-1	Test Points		TP601	G-1
IC9	H-4			TP602	G-1
IC10	I-4			TP603	H-2
IC11	G-2	TG101	D-1	TP604	H-2
IC12	G-1	TG102	I-5	TP605	H-2
IC13	B-2	TG501	G-1	Adjustments	
IC14	C-2	TP101	F-1		
IC15	D-1	TP102	F-1		
IC16	A-3	TP103	F-1	VC1	E-3
IC17	A-2	TP104	A-1	VR101	E-1
IC22	H-3	TP105	H-2	VR102	E-1
IC24	C-3	TP106	H-2	VR103	E-1
IC25	G-4	TP107	J-3	Connectors	
IC30	G-3	TP108	F-1		
IC31	B-4	TP109	A-1		
IC32	I-3	TP110	A-1	P1	G-5
IC34	G-3	TP111	F-1	P2	D-5
		TP112	F-1	P3	C-1
		TP113	E-3		

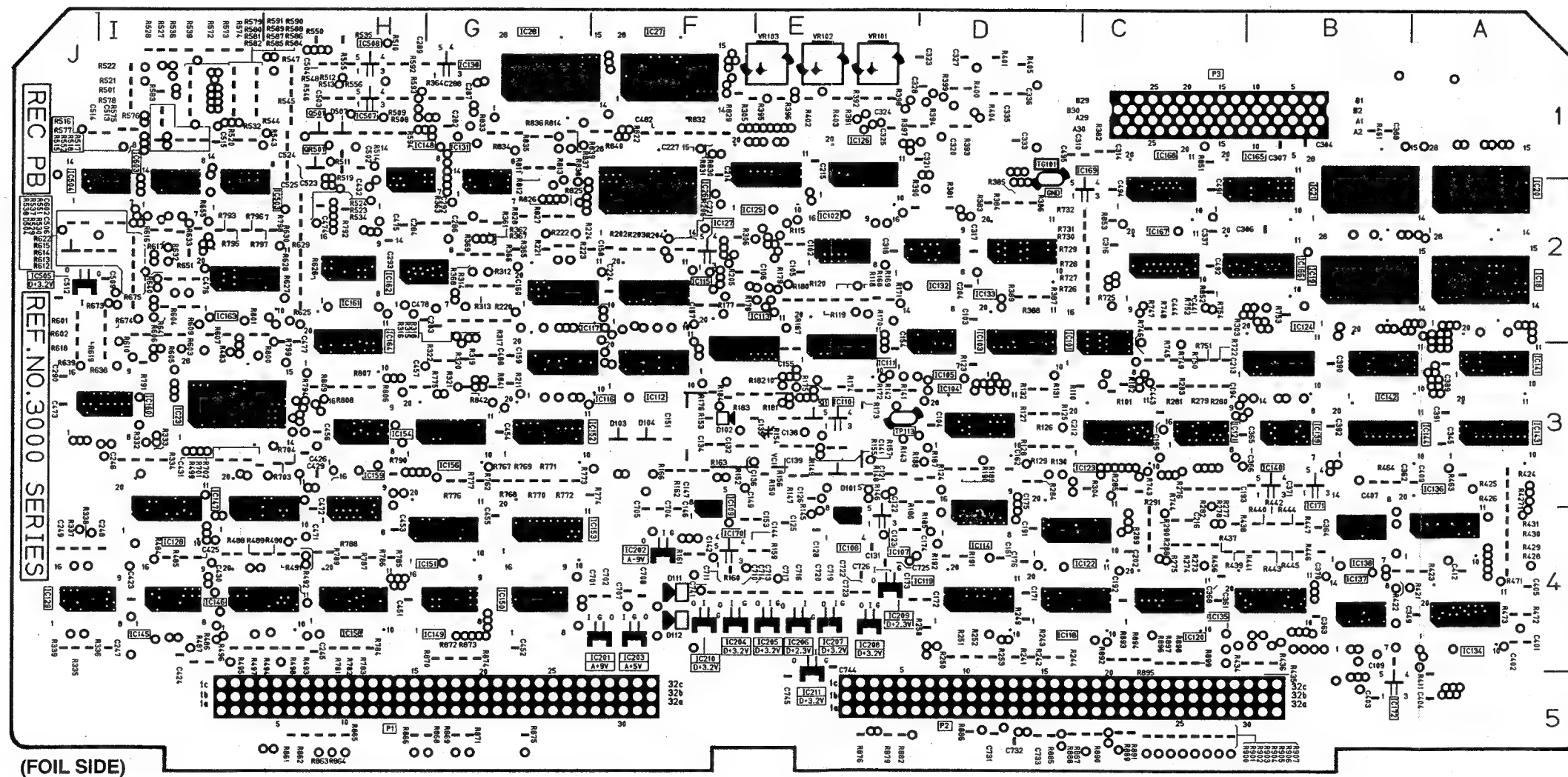
ADDRESS INFORMATION





F5 REC PB (FOIL SIDE)									
Transistors		IC113	F-3	IC137	B-4	IC163	I-2	IC507	H-1
Q501		IC114	D-4	IC138	B-4	IC164	H-3	IC508	H-1
Transistor & Resistors		IC115	F-2	IC139	B-3	IC165	B-2	IC603	I-2
QR501		IC116	G-3	IC140	B-3	IC166	B-2	Test Points	
Integrated Circuits		IC117	G-2	IC141	A-3	IC167	C-2	TG101	D-2
IC18	A-2	IC118	D-4	IC142	B-3	IC168	C-2	TP113	E-3
IC19	B-2	IC119	D-4	IC143	A-3	IC169	C-2	Adjustments	
IC20	A-2	IC120	C-4	IC144	B-3	IC170	F-4	VC1	E-3
IC21	B-2	IC121	C-3	IC145	I-4	IC171	B-3	VR101	E-1
IC23	I-3	IC122	C-4	IC146	I-4	IC172	B-5	VR102	E-1
IC26	F-2	IC123	C-3	IC147	I-4	IC201	F-4	VR103	E-1
IC27	F-1	IC124	B-3	IC148	H-2	IC202	F-4	Connectors	
IC28	G-1	IC125	E-1	IC149	G-4	IC203	F-4	P1	H-5
IC101	C-2	IC126	E-1	IC150	G-4	IC204	F-4	P2	D-5
IC102	E-2	IC127	F-2	IC151	G-4	IC205	E-4	P3	C-1
IC103	D-2	IC128	I-4	IC152	G-3	IC206	E-4		
IC104	D-3	IC129	J-4	IC153	G-4	IC207	E-4		
IC105	D-2	IC130	G-1	IC154	H-3	IC208	E-4		
IC107	E-4	IC131	G-2	IC156	G-3	IC209	E-4		
IC108	E-4	IC132	D-2	IC158	H-4	IC210	F-4		
IC109	F-4	IC133	D-2	IC159	H-3	IC211	E-5		
IC110	E-3	IC134	A-4	IC160	I-3	IC503	I-2		
IC111	E-3	IC135	B-4	IC161	H-2	IC504	J-2		
IC112	F-3	IC136	A-4	IC162	H-2	IC505	J-2		

ADDRESS INFORMATION



# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Introduction of New Servo P.C. Board

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	91	VSD9606M502A/B	E7TRB0001
AJ-D650E	66	VSD9612MJ01A/B	E7TRA0001
AJ-D640E	66	VSD9612MJ01A/B	E7TRA0001

Board : Servo (F1:VEP82105B)

To improve the manufacturing productivity, a new F1 Servo P.C. Board (VEP82105B-1 / VJB82105-2) is introduced. This Technical Bulletin contains the following items.

- 1). Parts List (Changed parts only)
- 2). P.C. Board Layout

F1 Servo (VEP82105B-1 / VJB82105-2)

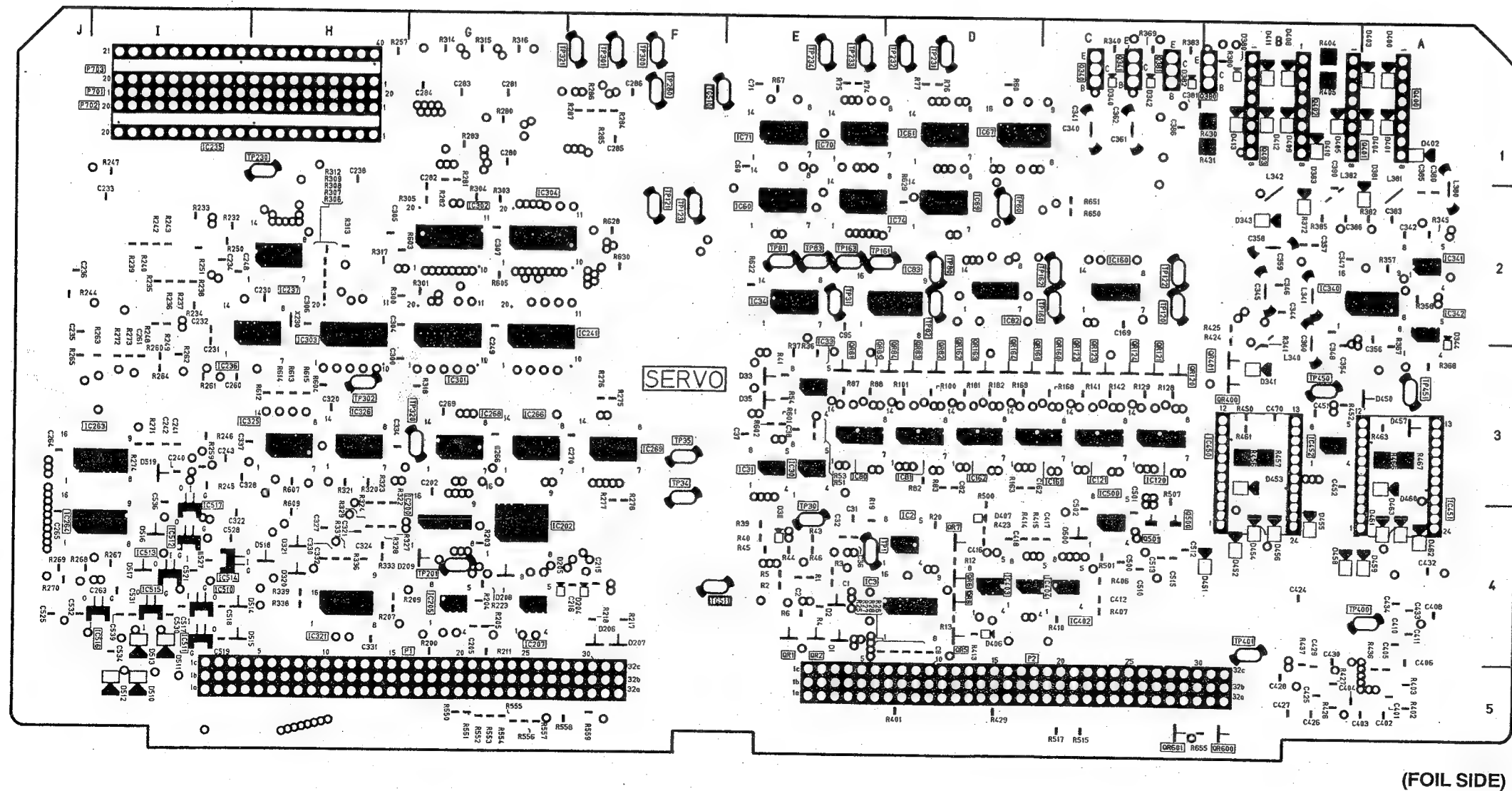
Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C335, 36	---	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	0→2	
C412	ECUM1H103KBN	ECUM1E224ZFN	C. CAPACITOR CH 25V 0.024U	1	
D36	---	MA152K	DIODE	0→1	
IC3	MC14052BF	TC4052BF	IC	1	
IC324	---	T74VHCU04F	IC	0→1	
IC514	NJM78L05UA	XC62AP5002P	IC	1	
R204	VRE0034E332	ERJ6RBD303	M. RESISTOR CH 1/10W 30K	1	
R205	VRE0034E332	ERJ6RBD153	M. RESISTOR CH 1/10W 15K	1	
R223	ERJ6GEY0R00	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R224	ERJ6GEY0R00	---	M. RESISTOR CH 1/10W 0	1→0	
R406, 07	ERJ6GEYJ223	ERJ6GEYG474	M. RESISTOR CH 1/10W 470K	2	
R656	ERDS2TJ101	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	

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# F1 SERVO P.C.BOARD (VEP82105A) (FOR NTSC) (VEP82105B) (FOR PAL)



(FOIL SIDE)

F1 SERVO(FOIL SIDE)			
Transistors		IC302	
Q304	C-1	IC303	G-2
Q341	C-1	IC304	H-3
Q380	B-1	IC321	G-2
Q381	C-1	IC325	H-3
Q400	A-1	IC326	H-3
Q401	A-1	IC340	B-2
Q402	B-1	IC341	A-2
Q403	B-1	IC342	A-2
Q500	C-4	IC402	C-4
Q501	C-4	IC403	D-4
Transistor & Resistors		IC404	C-4
QR1	E-4	IC450	B-3
QR2	E-4	IC451	A-3
QR5	D-4	IC452	B-3
QR6	D-4	IC500	C-3
QR7	D-4	IC510	I-4
QR8	D-4	IC511	I-4
QR81	E-3	IC512	I-4
QR82	D-3	IC513	I-4
QR83	D-3	IC514	I-4
QR84	D-3	IC515	I-4
QR85	E-3	IC516	I-4
QR120	C-3	IC517	I-4
QR121	C-3	Test Points	
QR122	C-3	TG510	F-1
QR123	C-3	TG511	F-4
QR124	C-3	TP1	D-4
QR160	C-3	TP30	E-4
QR161	D-3	TP31	E-2
QR162	D-3	TP34	F-3
QR163	D-3	TP35	F-3
QR164	D-3	TP60	D-2
QR400	B-3	TP80	D-2
QR401	B-3	TP81	E-2
QR600	B-5	TP82	D-2
QR601	C-5	TP83	E-2
Integrated Circuits		TP120	C-2
IC2	D-4	TP121	F-2
IC3	E-4	TP122	C-2
IC30	E-3	TP123	F-2
IC31	E-3	TP160	C-2
IC33	E-3	TP161	E-2
IC34	E-2	TP162	C-2
IC60	E-2	TP163	E-2
IC61	D-1	TP201	G-4
IC67	D-1	TP230	H-1
IC69	D-2	TP231	D-1
IC70	E-1	TP232	D-1
IC71	E-1	TP233	E-1
IC74	E-2	TP234	E-1
IC80	E-3	TP280	F-1
IC81	D-3	TP300	F-1
IC82	D-2	TP301	F-1
IC83	D-2	TP302	H-3
IC120	C-3	TP320	G-3
IC121	C-3	TP321	F-1
IC160	C-2	TP400	A-4
IC161	C-3	TP401	B-4
IC162	D-3	TP450	B-3
IC200	G-4	TP451	A-3
IC202	G-4	Connectors	
IC205	G-4	P1	G-5
IC207	G-4	P2	D-5
IC235	I-1	P701	I-1
IC236	I-3	P702	I-1
IC237	H-2	P703	I-1
IC241	F-2		
IC263	I-3		
IC264	J-4		
IC266	G-3		
IC268	G-3		
IC269	F-3		
IC301	G-3		

ADDRESS INFORMATION



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Order No. VSD9710SA692

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Standardization of T4 Arm Unit**

Please use this supplement together with the Service Manual as follows :

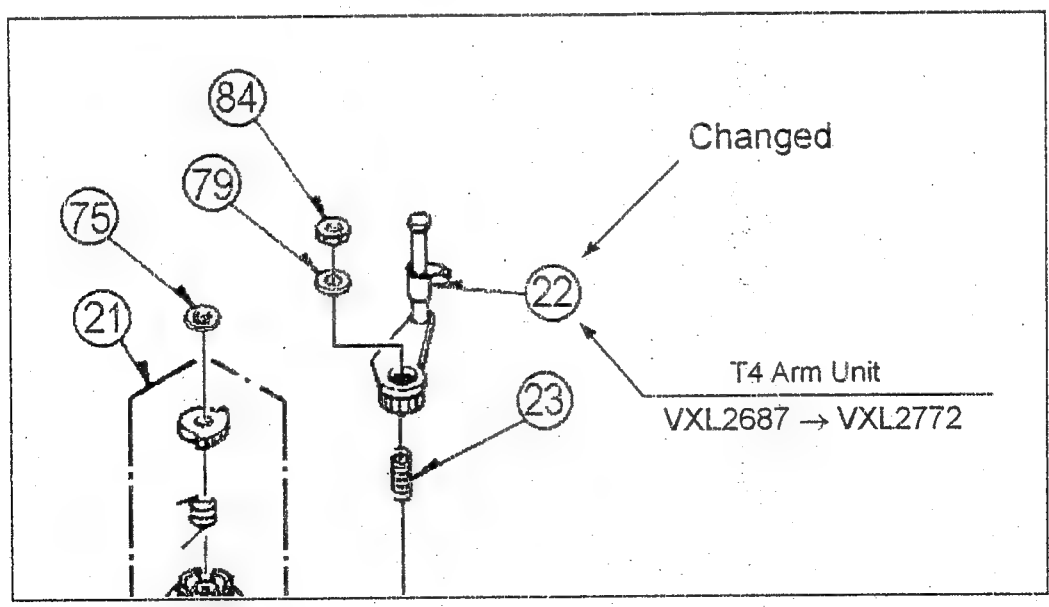
Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	92	VSD9606M502A	F7TRB0001
AJ-D650E	67	VSD9612MJ01A	F7TRA0001
AJ-D640E	67	VSD9612MJ01A	F7TRA0001

### Mechanical Chassis Assembly (2)

#### Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☐ The following part(s) has(have) been changed for productivity improvement.
- ☒ The following part(s) has(have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
22	VXL2687	VXL2772	T4 ARM U	1	



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ATTN: 18145

Order No. VSD9710SA693

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Reel Motor Unit

Please use this supplement together with the Service Manual as follows :

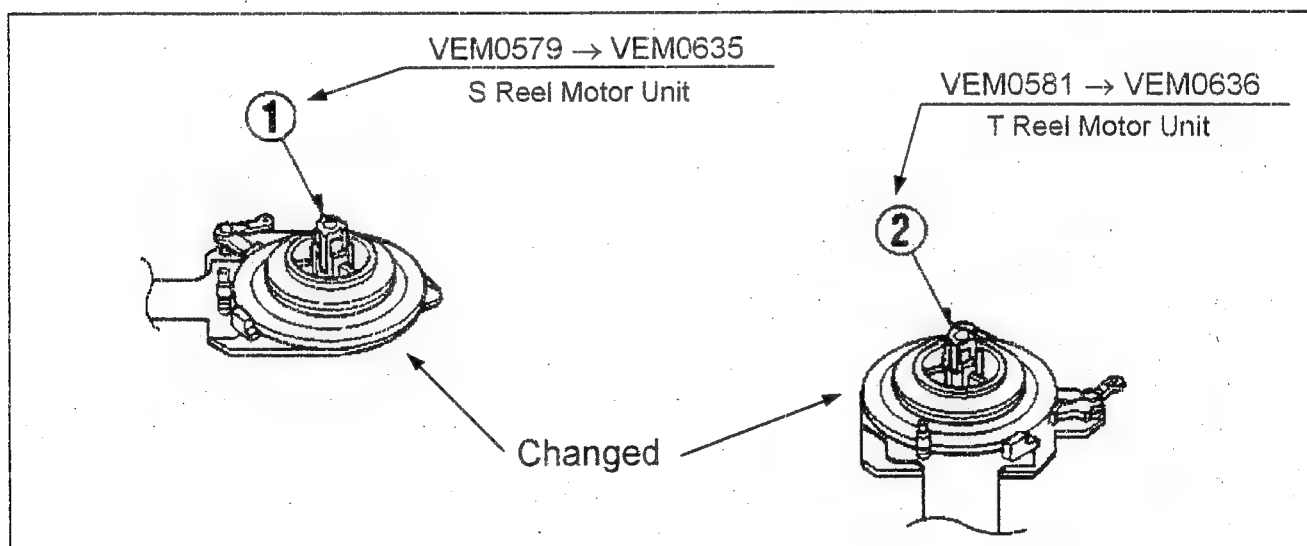
Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	93	VSD9606M502A	F7TRB0001
AJ-D650E	68	VSD9612MJ01A	F7TRA0001
AJ-D640E	68	VSD9612MJ01A	F7TRA0001

#### Mechanical Chassis Assembly (1)

Symptom : Reel Motor (Rotor portion) may take off from the Stator portion during transportation.

Remedy : To prevent it, the Rotor portion of Reel Motor is united with the Stator portion of Reel Motor and the Rotor Stopper is added to the Reel Motor as shown below.  
According to this change, the 5-2.Cassette Height Position Pin Adjustment is not required.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
1	VEM0579	VEM0635	S REEL MOTOR U	1	
2	VEM0581	VEM0636	T REEL MOTOR U	1	



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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Crystal Oscillator

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN <i>V1726+V17727</i>	95	VSD9606M502A/B	G7TRB0001
AJ-D650E <i>V1845+V1846</i>	69	VSD9612MJ01A/B	G7TRA0001
AJ-D640E <i>-1L + -1L</i>	69	VSD9612MJ01A/B	G7TRA0001

Board : System Control (F2:VEP86146B) - AJ-D750  
 System Control (F2:VEP86146E) - AJ-D650  
 System Control (F2:VEP86146F) - AJ-D640

Symptom : Crystal Oscillator for Time Code Gate Array may be malfunctioned.

Cause : Due to a little margin of the Crystal Oscillator.

Remedy : To prevent it, capacitor C727 is changed from 50V/18pF to 50V/5pF on the component side as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C727	ECUM1H180JCN	ECUM1H050CCN	C. CAPACITOR CH 50V 5P	1	

## AJ-D750

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
C727	2-41	C-9 (11/14)	3-4	I-2 (C)

## AJ-D650/D640

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
C727	2-41	E-5 (11/14)	3-4	I-2 (C)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Deletion of Parts

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN <i>V7726 + V7727</i>	96	VSD9606M502A/B	G7TRB0001
AJ-D650E <i>V1315 + V1316</i>	70	VSD9612MJ01A/B	G7TRA0001
AJ-D640E <i>-12 + -14</i>	70	VSD9612MJ01A/B	G7TRA0001

Board : RF AMP (H4:VEP85049A)

To improve the manufacturing productivity, the following parts are deleted.

- 1). Delete capacitors (25V/0.1 $\mu$ F) C5095, C5096, C5097, C5102, C5112, C5114 and C5115 from the component side.
- 2). Delete capacitors (25V/0.1 $\mu$ F) C5098, C5101, C5103, C5104 and C5113 from the foil side.
- 3). Delete IC5001 and IC5018 (TL084CNS) and IC5019 (NJM082BM) from the component side.
- 4). Delete IC5012 (NJM082BM) from the foil side.
- 5). Delete variable resistors (5K $\Omega$ ) VR5001, VR5002, VR5003, VR5004, VR5005, VR5006, VR5007, VR5008, VR5009, VR5010, VR5011 and VR5012 from the component side.

Part Number		New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.				
C5095 - 98	ECUM1E104ZFN	---	C. CAPACITOR CH 25V 0.1U	4→0	
C5101 - 04	ECUM1E104ZFN	---	C. CAPACITOR CH 25V 0.1U	4→0	
C5112 - 15	ECUM1E104ZFN	---	C. CAPACITOR CH 25V 0.1U	4→0	
IC5001	TL084CNS	---	IC	1→0	
IC5012	NJM082BM	---	IC	1→0	
IC5018	TL084CNS	---	IC	1→0	
IC5019	NJM082BM	---	IC	1→0	
VR5001-12	VRV0112B502	---	V. RESISTOR 5K	12→0	

## AJ-D750

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
C5095	2-175	D-4 (2/5)	3-13	C~D-1 (C)
C5096	2-175	D-4 (2/5)	3-13	C-1 (C)
C5097	2-175	E-4 (2/5)	3-13	C-1 (C)
C5098	2-175	E-4 (2/5)	3-13	C-1 (F)
C5101	2-175	E-4 (2/5)	3-13	A-1 (F)
C5102	2-175	F-4 (2/5)	3-13	A-1 (C)
C5103	2-175	F-4 (2/5)	3-13	A-1 (F)
C5104	2-175	G-4 (2/5)	3-13	A-1 (F)

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Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
C5112	2-175	G-4 (2/5)	3-13	C~D-1 (C)
C5113	2-175	H-4 (2/5)	3-13	B-1 (F)
C5114	2-175	H-4 (2/5)	3-13	B-1 (C)
IC5001	2-175	G-3 (2/5)	3-13	B-1 (C)
IC5012	2-175	F-2 (2/5)	3-13	A-1 (F)
IC5018	2-175	D-2 (2/5)	3-13	C-1 (C)
IC5019	2-175	E-3 (2/5)	3-13	A-1 (C)
VR5001	2-175	D-2 (2/5)	3-13	D-1 (C)
VR5002	2-175	D-2 (2/5)	3-13	D-1 (C)
VR5003	2-175	D-2 (2/5)	3-13	D-1 (C)
VR5004	2-175	E-2 (2/5)	3-13	D-1 (C)
VR5005	2-175	E-2 (2/5)	3-13	A-1 (C)
VR5006	2-175	F-2 (2/5)	3-13	A-1 (C)
VR5007	2-175	F-2 (2/5)	3-13	B-1 (C)
VR5008	2-175	F-2 (2/5)	3-13	B-1 (C)
VR5009	2-175	G-2 (2/5)	3-13	C-1 (C)
VR5010	2-175	G-2 (2/5)	3-13	B-1 (C)
VR5011	2-175	H-2 (2/5)	3-13	C-1 (C)
VR5012	2-175	H-2 (2/5)	3-13	C-1 (C)

#### AJ-D650/D640

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
C5095	2-137	D-3 (2/5)	3-11	C~D-1 (C)
C5096	2-137	D-3 (2/5)	3-11	C-1 (C)
C5097	2-137	D-3 (2/5)	3-11	C-1 (C)
C5098	2-137	D-3 (2/5)	3-11	C-1 (F)
C5101	2-137	C-3 (2/5)	3-11	A-1 (F)
C5102	2-137	C-3 (2/5)	3-11	A-1 (C)
C5103	2-137	C-3 (2/5)	3-11	A-1 (F)
C5104	2-137	C-3 (2/5)	3-11	A-1 (F)
C5112	2-137	B-3 (2/5)	3-11	C~D-1 (C)
C5113	2-137	B-3 (2/5)	3-11	B-1 (F)
C5114	2-137	B-3 (2/5)	3-11	B-1 (C)
IC5001	2-137	B-3 (2/5)	3-11	B-1 (C)
IC5012	2-137	C-2 (2/5)	3-11	A-1 (F)
IC5018	2-137	D-2 (2/5)	3-11	C-1 (C)
IC5019	2-137	C-3 (2/5)	3-11	A-1 (C)
VR5001	2-137	D-2 (2/5)	3-11	D-1 (C)
VR5002	2-137	D-2 (2/5)	3-11	D-1 (C)
VR5003	2-137	D-2 (2/5)	3-11	D-1 (C)
VR5004	2-137	D-2 (2/5)	3-11	D-1 (C)
VR5005	2-137	C-2 (2/5)	3-11	A-1 (C)
VR5006	2-137	C-2 (2/5)	3-11	A-1 (C)
VR5007	2-137	C-2 (2/5)	3-11	B-1 (C)
VR5008	2-137	C-2 (2/5)	3-11	B-1 (C)
VR5009	2-137	B-2 (2/5)	3-11	C-1 (C)
VR5010	2-137	B-2 (2/5)	3-11	B-1 (C)
VR5011	2-137	B-2 (2/5)	3-11	C-1 (C)
VR5012	2-137	B-2 (2/5)	3-11	C-1 (C)

1P226# 2026033

VMP#115 1017024 ✓

V189224/1030051

Order No. VSD9710SA698

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Mechanical Chassis Unit Supply Information

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	98	VSD9606M502A	---
AJ-D650E ✓	71	VSD9612MJ01A	---
AJ-D640E ✓	71	VSD9612MJ01A	---
AJ-LT75E	16	VSD9707M602A	---
AJ-D230E	13	VSD9708M605	---

#### Mechanical Chassis Assembly (2)

To improve the serviceability and manufacturing productivity, the Mechanical Chassis unit is supplied without the Cassette Compartment Unit as follows.

#### AJ-D750

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	VXY1168	VXY1254Z1	MECHANICAL CHASSIS U	1	

#### AJ-D650/D640

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	VXY1254	VXY1254Z1	MECHANICAL CHASSIS U	1	

#### AJ-LT75/D230

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	VXY1283	VXY1283Z1	MECHANICAL CHASSIS U	1	

TM3549TM3614

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V17726 # 2035033

V18115 # 1012024 ✓

V17723 # 1033021

Order No. VSD9710SA699

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Change of T Loading Arm Unit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	99	VSD9606M502A	G7TRB0001
AJ-D650E ✓	72	VSD9612MJ01A	G7TRA0001
AJ-D640E ✓	72	VSD9612MJ01A	G7TRA0001
AJ-D700E/EN	55	VSD9606M501A	G7TKA0001

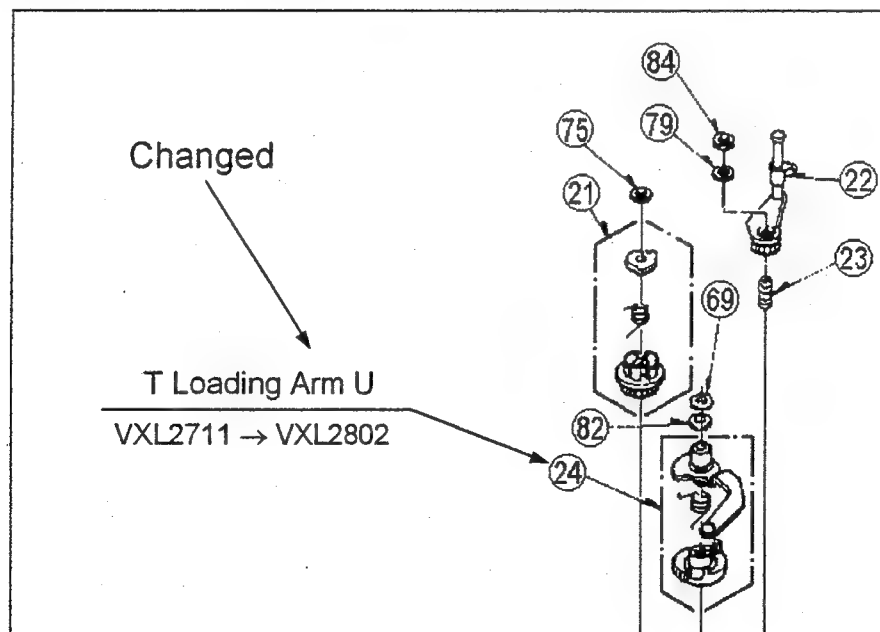
#### Mechanical Chassis Assembly (2)

Symptom : Linearity may not perform correctly.

Cause : T1 Boat Unit may not lock. It results in X value shift.

Remedy : To prevent it, the T Loading Arm Unit is changed from VXL2711 to VXL2802.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
24	VXL2711	VXL2802	T LOADING ARM U	1	



M1487TM3609

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Change of Screws for Cassette Compartment

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	100	VSD9606M502A	G7TRB0001
AJ-D650E	73	VSD9612MJ01A	G7TRA0001
AJ-D640E	73	VSD9612MJ01A	G7TRA0001
AJ-LT75E	17	VSD9707M602A	G7TNA0001
AJ-D230E	14	VSD9708M605	I7TDA0001

#### Cassette Compartment Assembly

To improve the manufacturing productivity, the following screws are changed.

- 1). Screws for Wiper Racks are changed from VHD0678 to LMHD16061 as shown in figures 1 and 3.
- 2). Screws for Holder Flexible Unit are changed from VHD0678 to LMHD16061 as shown in figure 2.
- 3). Screws for Holder Flexible Unit are changed from XQN16+A25 to LMHD16061 as shown in figure 2.
- 4). Screws for Side Flexible are changed from XQN16+A2 to LMHD16061 as shown in figure 4.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
70	VHD0678	LMHD16061	FHA SCREW	6→10	
74	XQN16+A2	---	SCREW	2→0	
76	XQN16+A25	---	SCREW	2→0	

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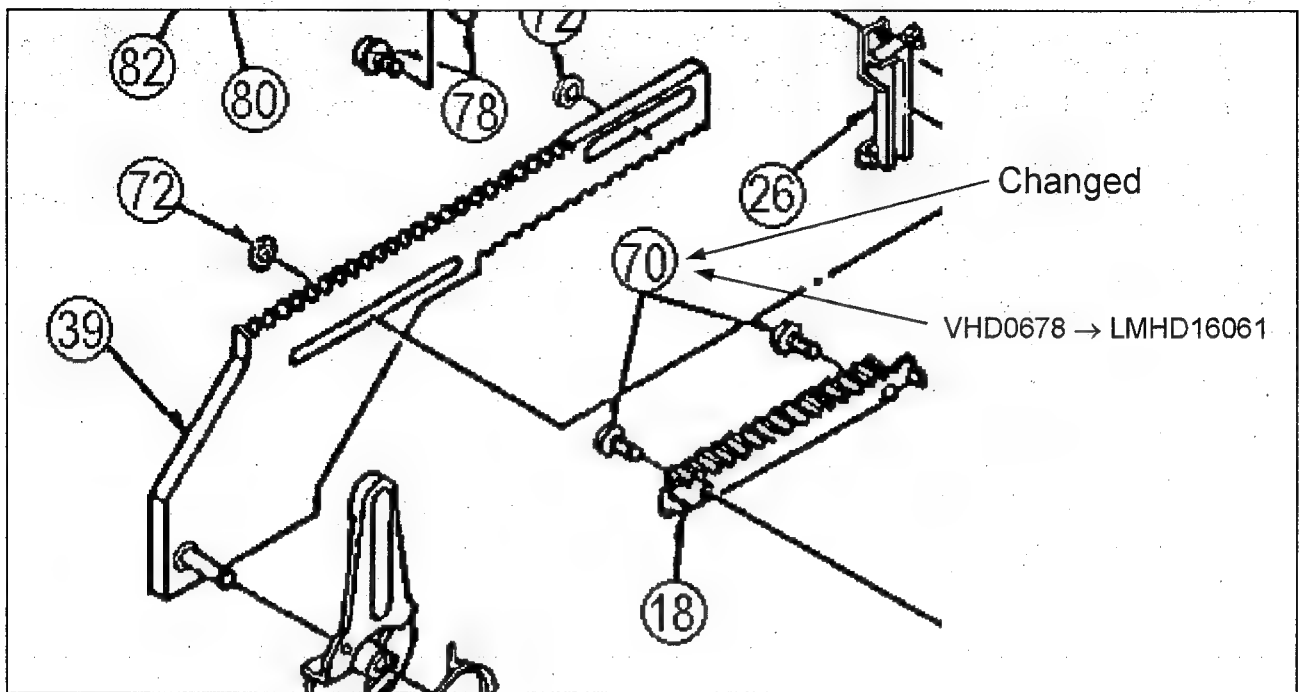


Fig. 1

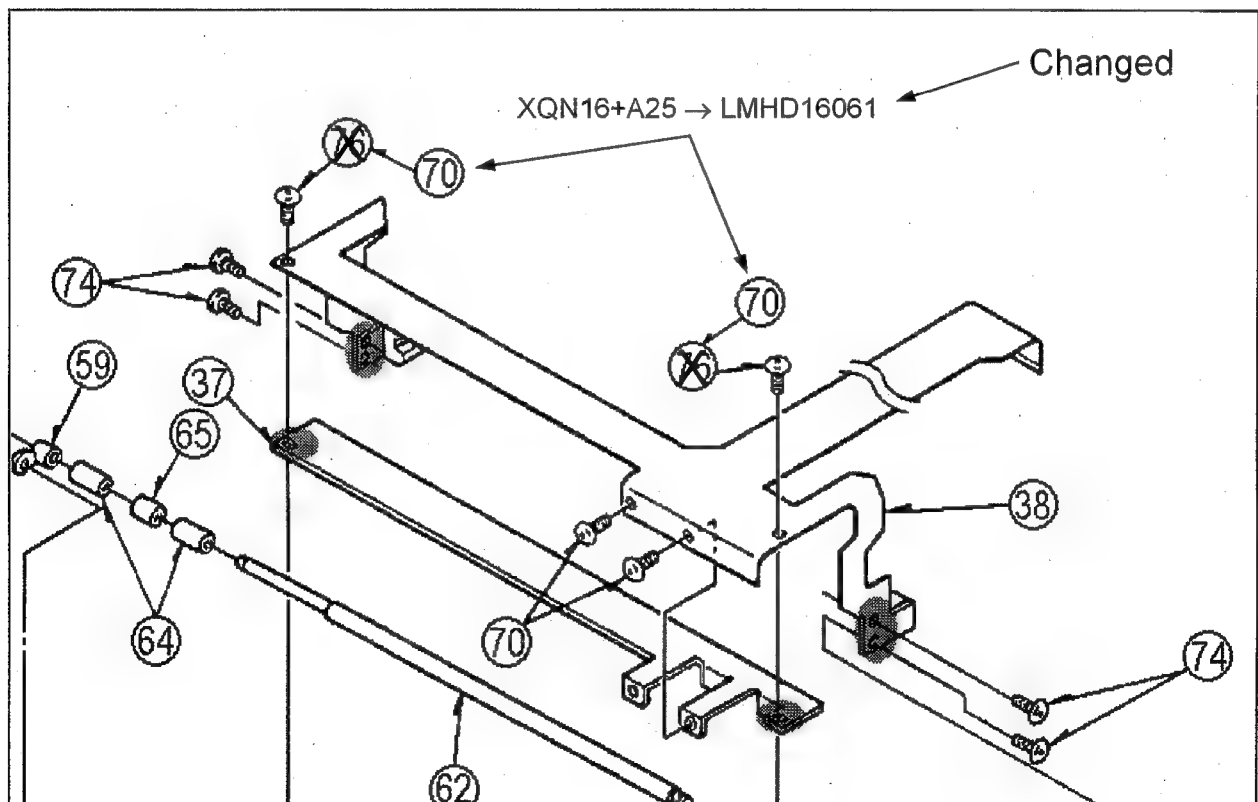


Fig. 2

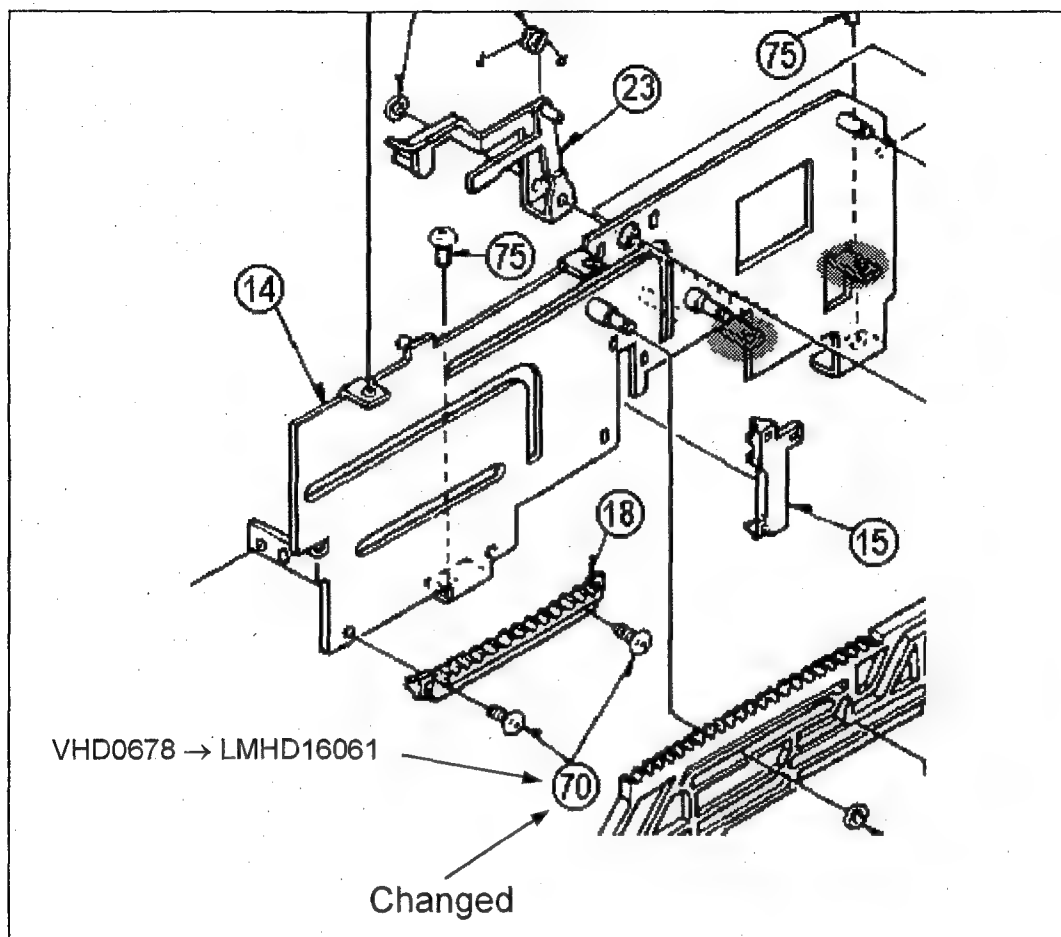


Fig. 3

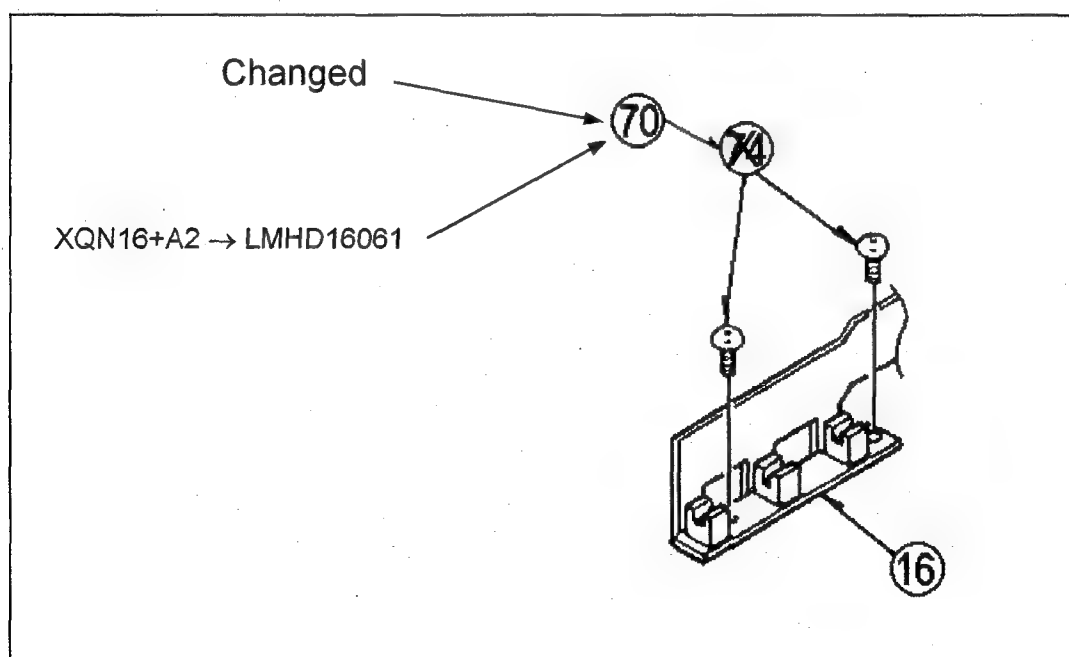


Fig. 4

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Audio Mute during Playback Mode

Please use this supplement together with the Service Manual as follows :

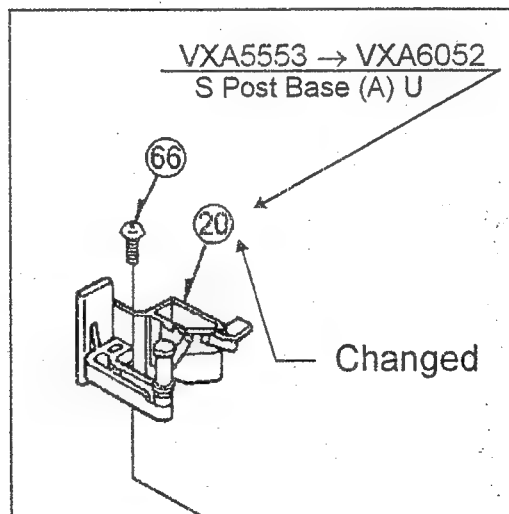
Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN $\sqrt{17726 + 17727}$	101	VSD9606M502A	G7TRB0001
AJ-D700E/EN $\sqrt{17728 + 17729}$	58	VSD9606M501A	G7TKA0001
AJ-D650E $\sqrt{18445 + 18446}$	74	VSD9612MJ01A	G7TRA0001
AJ-D640E	74	VSD9612MJ01A	G7TRA0001

#### Mechanical Chassis Assembly (2)

Symptom : Audio mute may occur during Playback mode.

Remedy : To improve the reliability and durability of the S5 Roller Post, the S Post Base Unit is changed from VXA5553 to VXA6052 as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
20	VXA5553	VXA6052	S POST BASE A U	1	



M1485TM3595

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Order No. VSD9710SC627

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Introduction of New V OUT P.C. Board

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	75	VSD9612MJ01A/B	H7TRA0001
AJ-D640E	75	VSD9612MJ01A/B	H7TRA0001

Board : V OUT (F4:VEP83352B)

To improve the manufacturing productivity and introduce the new function, a new F4 V OUT P.C. Board (VEP83352B-1 / VJB83352-2) is introduced. This Technical Bulletin contains the following items.

- 1). Electrical Adjustment Procedure
- 2). Parts List
- 3). Schematic Diagram
- 4). P.C. Board Layout

According to this change, the following function is introduced.  
1). V Blanking Area Record function is introduced.

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## 10. Video Out P.C.Board (F4)

### 10-1. DA Reference Volt. Adjustment

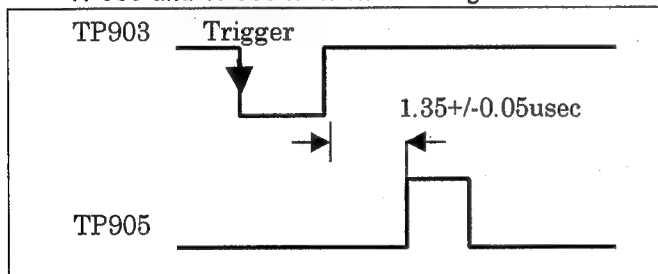
BOARD	V_OUT (F4)
SPEC.	3.95V $\pm$ 0.05V
TEST	TP300 (H-3)
ADJUST	VR300 (G-1)
INPUT	EXT REF IN / Composite
MODE	E-E
TAPE	-----
M.EQ	Oscilloscope

1. Adjust VR300 so that the DV voltage is 3.95V  $\pm$  0.05V .

### 10-2. Sampling Position Adjustment

BOARD	V_OUT (F4)
SPEC.	1.35 $\pm$ 0.051 usec
TEST	TP903 (D-1), TP905 (C-2)
ADJUST	VR900 (C-1)
INPUT	EXT REF IN / Composite
MODE	E-E
TAPE	-----
M.EQ	Oscilloscope

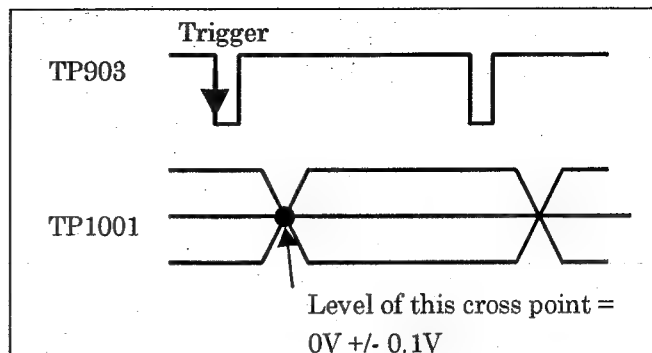
1. Adjust VR900 so that the timing of the pulses at TP905 and TP903 is as shown in figure below.



### 10-3. PLL Center Adjustment

BOARD	V_OUT (F4)
SPEC.	0V $\pm$ 0.1V
TEST	TP903 (D-1), TP1001 (D-1)
ADJUST	VC1000 (D-1)
INPUT	EXT REF IN / Composite
MODE	E-E
TAPE	-----
M.EQ	Oscilloscope

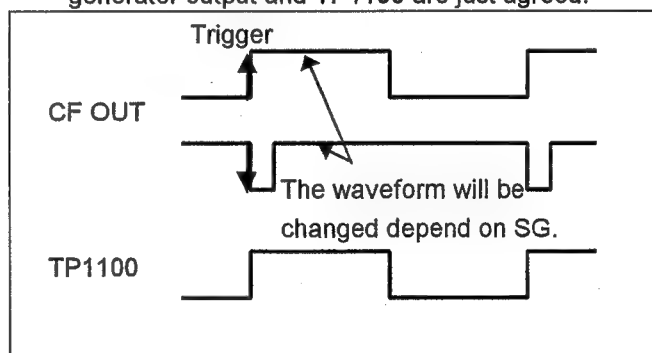
1. Adjust VC1000 so that the voltage is 0V  $\pm$  0.1V.



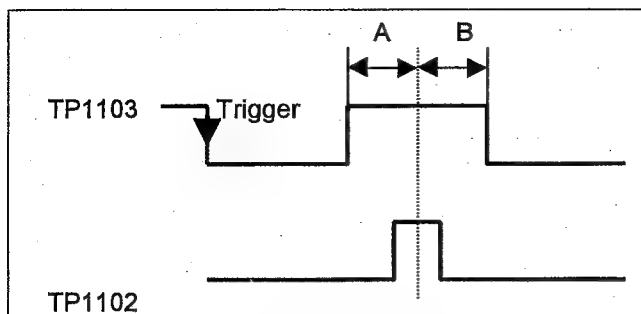
### 10-4. CF Detection (1) Adjustment

BOARD	V_OUT (F4)
SPEC.	See Figure
TEST	TP1100 (C-2), CF Out of Signal SG TP1102 (C-2), TP1103 (C-2)
ADJUST	VR901 (C-1)
INPUT	EXT REF IN / Composite
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

1. Connect the oscilloscope CH1 to the CF output of Composite signal generator and CH2 to TP1100.
2. Adjust VR901 so that the CF pulses of the signal generator output and TP1100 are just agreed.



3. Connect the oscilloscope CH1 to TP1102 and CH2 to TP1103.
4. Expand (delay) the portion A ( rising edge of TP1103).
5. Slowly and slithery rotate VR901 so that the rising edge of TP1103 is positioned at the center of the stable waveform at TP1102.

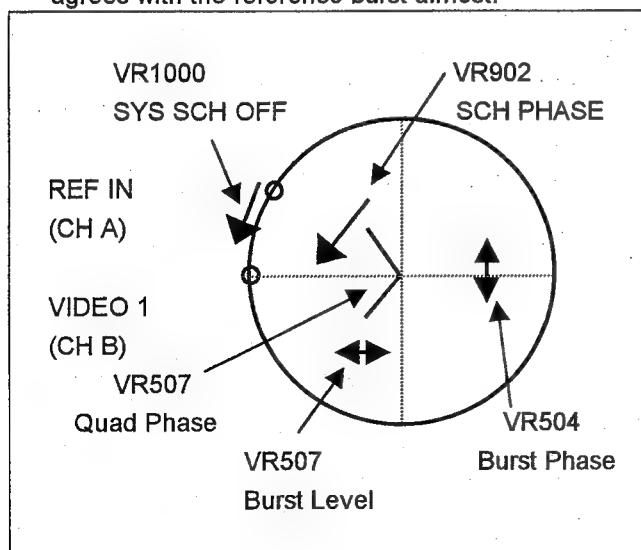


### 10-5. Vector Per-Adjustment

Before starting the composite video output adjustment, perform the following vector per-adjustment.

BOARD	V_OUT (F4)
SPEC.	Within $\pm 1$ IRE
TEST	VIDEO-1
ADJUST	VR1000(B-1), VR902 (J-2), VR507 (I-1) VR503 (H-1), VR504 (H-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	SCH Meter

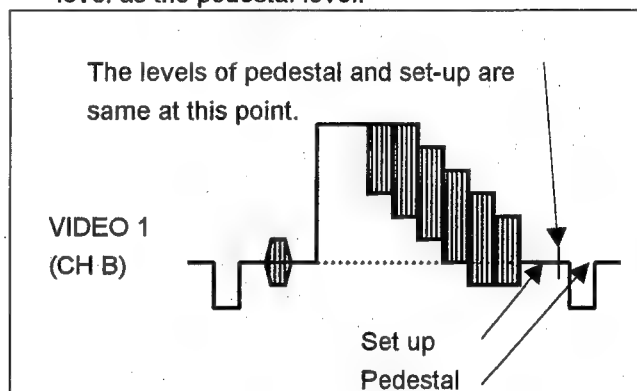
1. Adjusts VR1000 while changing the channels A and B of the SCH meter alternately so that the SCH is 0 degree almost.
2. Adjusts VR902, VR507, VR503 and VR504 while changing the channel A and B of the SCH meter alternately so that the vector of the Video 1 burst agrees with the reference burst almost.



### 10-6. Composite Set Up Adjustment

BOARD	V_OUT (F4)
SPEC.	Set-up Level = Pedestal Level $\pm 10$ mV
TEST	VIDEO-1
ADJUST	VR802 (J-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	WFM Monitor

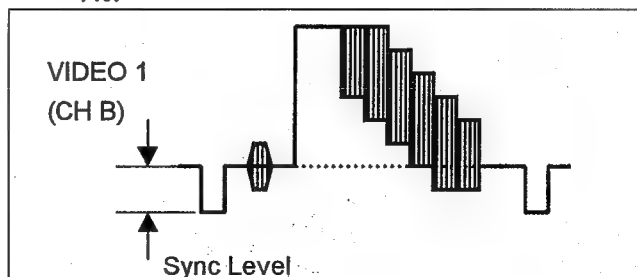
1. Adjusts VR802 so that the set up level is the same level as the pedestal level.



### 10-7. Sync Level Adjustment

BOARD	V_OUT (F4)
SPEC.	$0.3V \pm 1\%$
TEST	VIDEO-1
ADJUST	VR400 (G-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	WFM Monitor

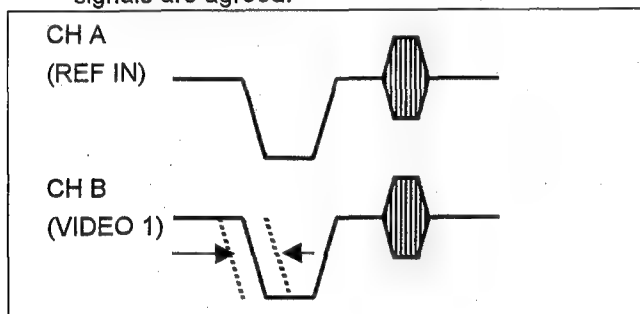
1. Adjust VR400 so that the Sync Level is  $0.3V \pm 1\%$ .



### 10-8. H Sync Phase Adjustment

BOARD	V_OUT (F4)
SPEC.	See Figure
TEST	VIDEO-1 / REF
ADJUST	VR1100 (B-1)
INPUT	EXT REF IN
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	WFM Monitor

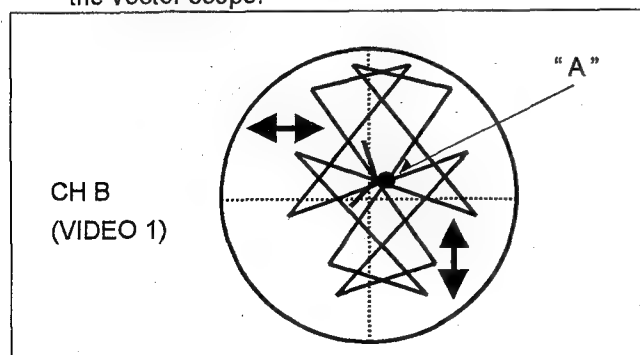
1. Adjusts VR1100 while changing the channels A and B of the waveform monitor alternately so that the timing of the Video 1 H and Reference H signals are agreed.



### 10-9. Carrier Balance Adjustment

BOARD	V_OUT (F4)
SPEC.	Cross Point "A" at the Center
TEST	VIDEO-1 / REF IN
ADJUST	VR505 (I-1), VR506 (I-1)
INPUT	EXT REF IN
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	Vector Scope

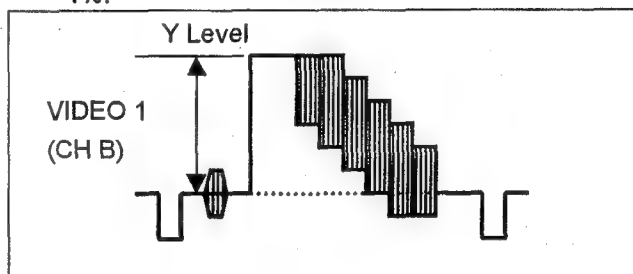
1. Set the vector scope in the without set up mode.
2. Adjust VR505 (PB BAL) and VR506 (PR BAL) so that the cross point A is positioned at the center of the vector scope.



### 10-10. Composite Y Level Adjustment

BOARD	V_OUT (F4)
SPEC.	100 IRE $\pm$ 1%
TEST	VIDEO-1
ADJUST	VR800 (I-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	WFM Monitor

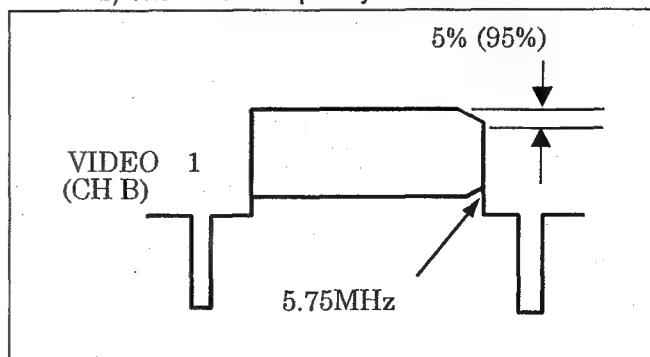
1. Adjust VR800 so that the Y Level is 100 IRE  $\pm$  1%.



### 10-11. Composite Y Frequency Response Adjustment

BOARD	V_OUT (F4)
SPEC.	1MHz : 5.5MHz = 100 : 95%
TEST	Y out
ADJUST	VR801 (G-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (H Sweep)
M.EQ	WFM Monitor

1. Adjust VR801 so that the frequency response becomes flat.
  - a) The level of 5.5MHz portion is 95%.
  - b) The middle frequency is 100%.

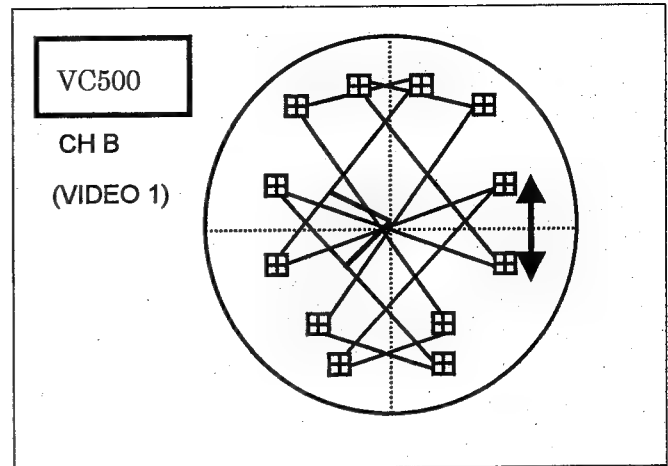
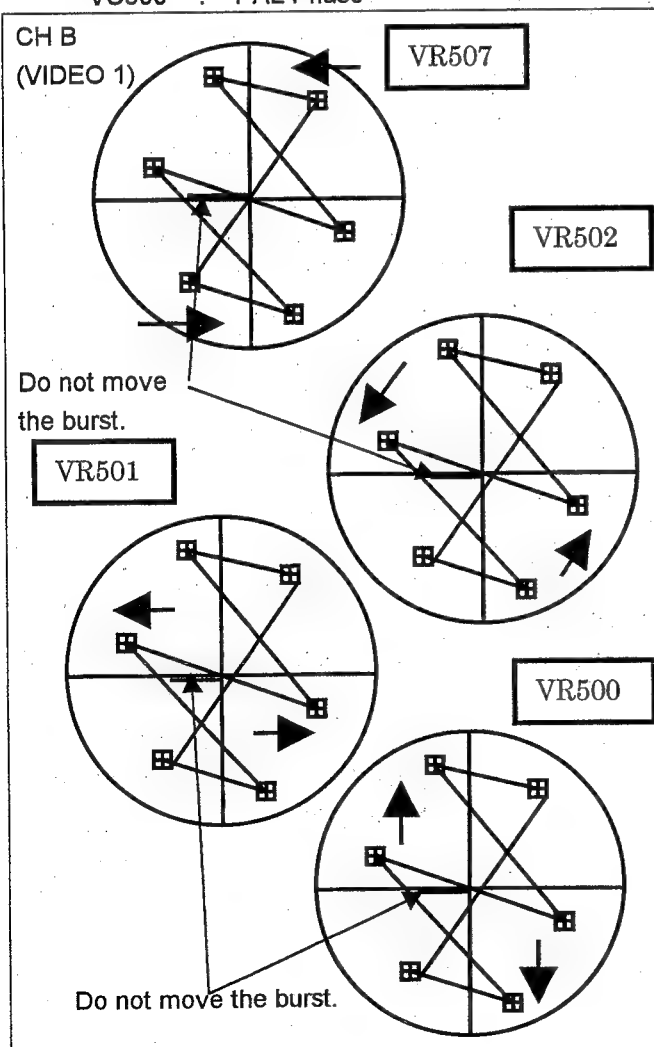


## 10-12. Vector Adjustment

BOARD	V_OUT (F4)
SPEC.	All Vectors are in the Inner Boxes
TEST	VIDEO-1
ADJUST	VR507 (I-1), VR502 (H-1), VR501 (H-1), VR500 (H-1), VC500(I-3)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (75% Color Bar)
M.EQ	Vector Scope

- Set the burst position on the Vector Scope at correct position.
- Adjust the following VR's so that the color bar's each vector points are in the square mark on the vector scope.

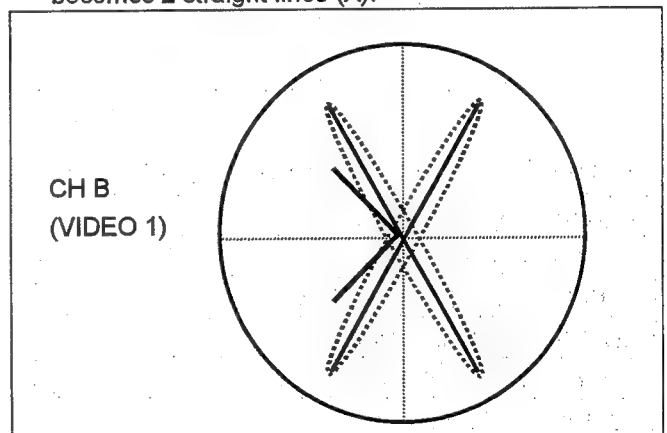
VR507 : Quad Phase  
 VR502 : Hue Phase  
 VR501 : Encode PB Level  
 VR500 : Encode PR Level  
 VC500 : PAL Phase



## 10-13. Composite PB/PR Timing Adjustment

BOARD	V_OUT (F4)
SPEC.	$0 \pm 10\text{nS}$
TEST	VIDEO-1
ADJUST	VR307 (F-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	Vector Scope

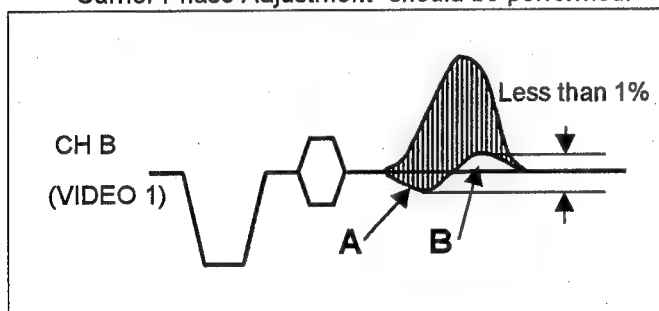
- Adjust VR307 so that the signal on the vector scope becomes 2 straight lines (X).



### 10-14. Composite YC Timing Adjustment

BOARD	V_OUT (F4)
SPEC.	$0 \pm 10\text{nS}$ ( Less than 1%)
TEST	VIDEO-1
ADJUST	VR803 (I-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (12.5T Pulse)
M.EQ	Monitor

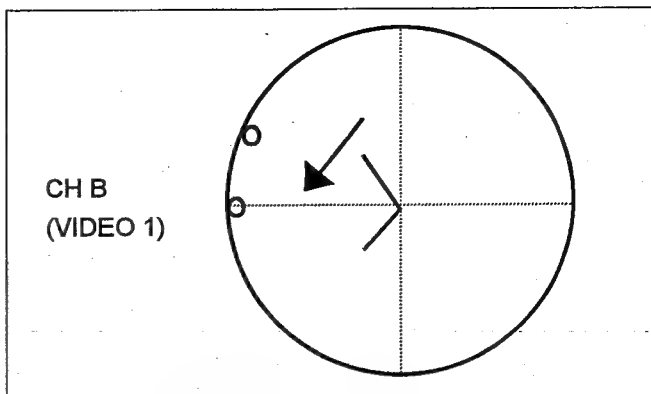
1. Do not use extension board for this adjustment.
2. Adjust VR803 so that the levels (A) and (B) on the 12.5T pulse are equal or less than 1%.
3. When performing this adjustment (step 2) the level may be changed too. Therefore, adjust the Chroma Level Control at the front panel.
4. Set the Chroma Level Control as the previous position.
5. After completion of this adjustment, "10-15 Sub-Carrier Phase Adjustment" should be performed.



### 10-15. Sub-Carrier Phase Adjustment

BOARD	V_OUT (F4)
SPEC.	$0 \pm 1^\circ$
TEST	VIDEO-1 / REF IN
ADJUST	VR1000 (B-1)
INPUT	EXT REF IN
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	SCH Meter

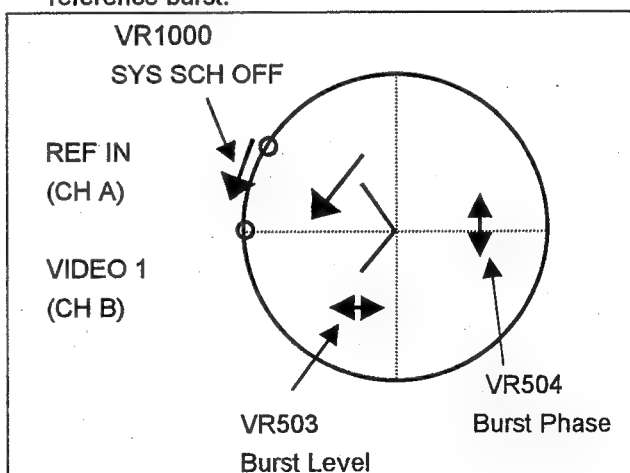
1. Adjust VR1000 so that the SCH of VIDEO OUT is same as EXT-REF-IN.



### 10-16. Burst Adjustment

BOARD	V_OUT (F4)
SPEC.	Within $\pm 1$ IRE
TEST	VIDEO-1
ADJUST	VR1000 (B-2), VR503 (H-1), VR504 (H-1)
INPUT	REF IN
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	SCH Meter

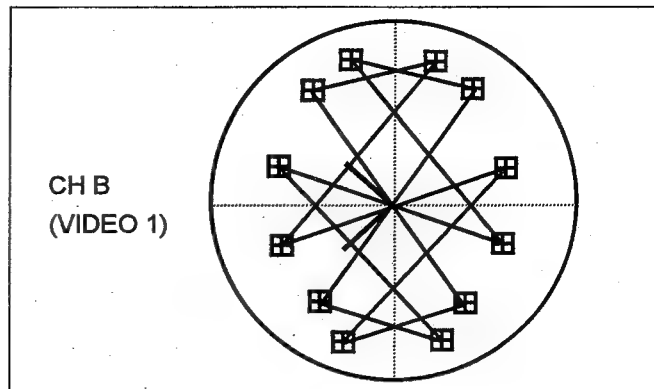
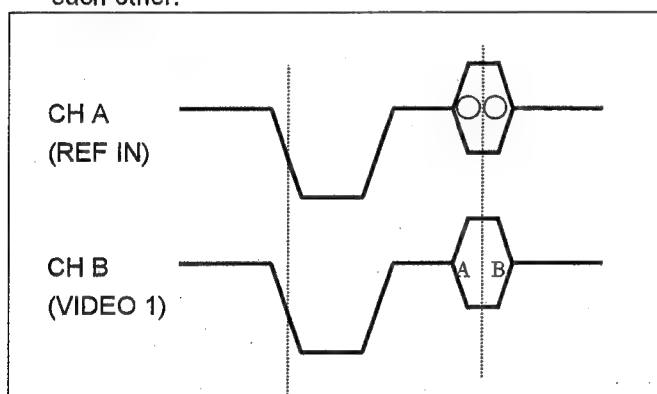
1. Adjusts VR1000 while changing the channels A and B of the SCH meter alternately so that the SCH is 0 degree.
2. Adjusts VR503 and VR504 while changing the channel A and B of the SCH meter alternately so that the vector of the Video 1 burst agrees with the reference burst.



### 10-17. Burst Position Adjustment

BOARD	V_OUT (F4)
SPEC.	$A = B \pm 5\%$
TEST	VIDEO-1 / REF IN
ADJUST	VR1102 (B-1)
INPUT	EXT REF IN
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	WFM Monitor

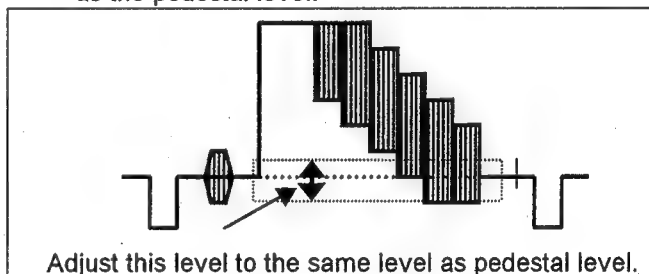
1. Adjusts VR1102 while changing the channels A and B of the vector scope alternately so that the center of the burst of the reference and video 1 are agreed each other.



### 10-19. V Blank Pedestal Level Adjustment

BOARD	V_OUT (F4)
SPEC.	$0 \pm 10\text{nS}$
TEST	VIDEO-1
ADJUST	VR310 (F-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	WFM Monitor

1. Adjust VR310 so that the signal level is same level as the pedestal level.



### 10-18. Vector Adjustment

BOARD	V_OUT (F4)
SPEC.	All Vectors are in the Inner Boxes
TEST	VIDEO-1
ADJUST	VR502 (H-1), VR500 (H-1), VR501 (H-1) VR507 (I-1), VC500 (I-3)
INPUT	REF IN
MODE	PLAY
TAPE	VFM3680KM
M.EQ	Vector Scope

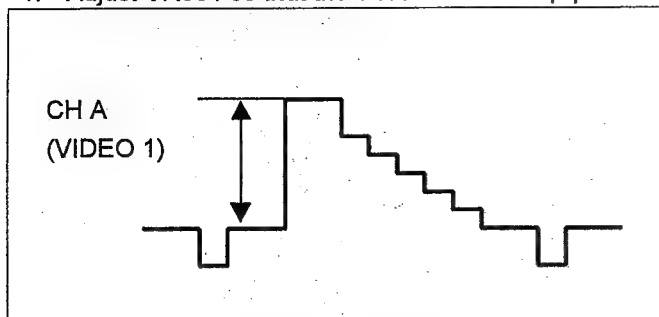
1. Set the burst position on the Vector Scope at correct position.
2. Adjust the following VR's so that the color bar's each vector points are in the square mark on the vector scope.

VR507 : Quad Phase  
 VR502 : Hue Phase  
 VR501 : Encode PB Level  
 VR500 : Encode PR Level  
 VC500 : PAL Phase

### 10-20. Component Y Level Adjustment

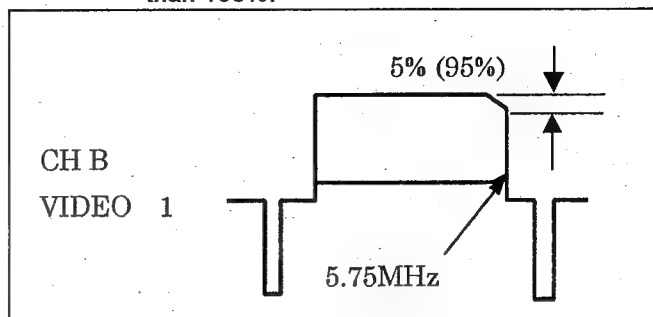
BOARD	V_OUT (F4)
SPEC.	$700\text{mVp-p} \pm 1\%$
TEST	COMPONENT Y OUT
ADJUST	VR301 (F-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Color Bar)
M.EQ	WFM Monitor

1. Adjust VR301 so that the Y level is  $700\text{mVp-p} \pm 1\%$ .



- a) The level at 5.5MHz portion is 95%.

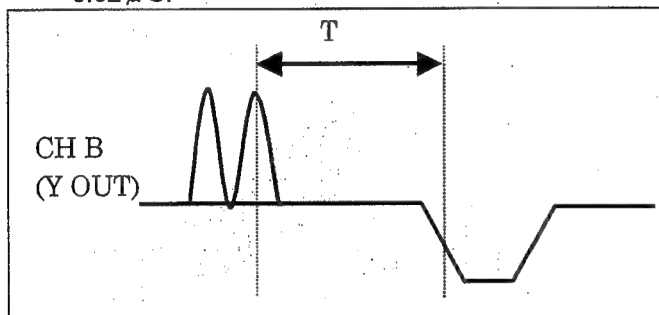
- b) The middle frequency should not be more than 100%.



### 10-21. Video Phase Adjustment

BOARD	V_OUT
SPEC.	$T = 1.26 \pm 0.02 \mu\text{S}$
TEST	Y_OUT
ADJUST	VR1050 (A-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Aria Maker)
M.EQ	WFM Monitor

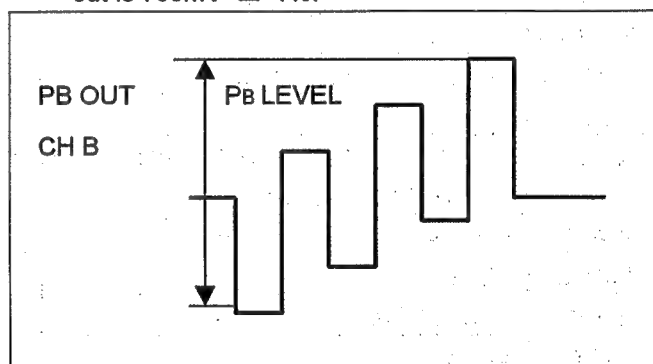
1. Adjust VR1050 so that the timing T is  $1.26 \mu\text{S} \pm 0.02 \mu\text{S}$ .



### 10-23. Component PB Level Adjustment

Board	V_OUT (F4)
SPEC.	$700\text{mV} \pm 1\%$
TEST	COMPONENT PB_OUT
ADJUST	VR306 (E-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (100% Color Bar)
M.EQ	WFM Monitor

1. Adjust VR306 so that the PB Level of component out is  $700\text{mV} \pm 1\%$ .



### 10-22. Component Y Frequency Response Adjustment

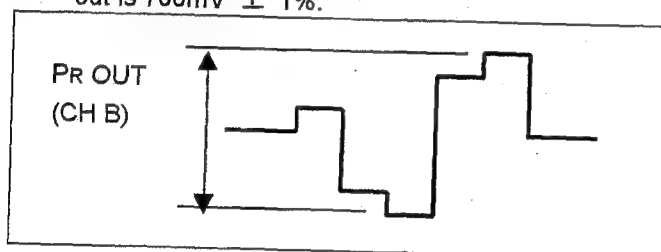
BOARD	V_OUT (F4)
SPEC.	$1\text{MHz} : 5.5\text{MHz} = 100\% : 95\%$
TEST	Y out
ADJUST	VR304 (F-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (H Sweep)
M.EQ	WFM Monitor

1. Adjust VR304 so that the frequency response becomes flat.

### 10-24. Component PR Level Adjustment

BOARD	V_OUT (F4)
SPEC.	700mV $\pm$ 1%
TEST	COMPONENT PR_OUT
ADJUST	VR305 (E-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (100% Color Bar)
M.EQ	WFM Monitor

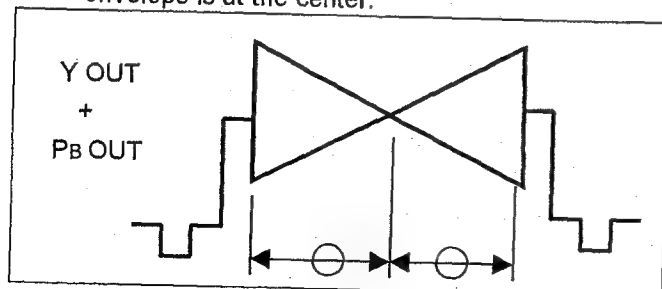
1. Adjust VR305 so that the PR Level of component out is 700mV  $\pm$  1%.



### 10-25. Component Y/PB Timing Adjustment

BOARD	V_OUT (F4)
SPEC.	0 $\pm$ 10nS
TEST	COMPONENT Y_OUT, PB_OUT
ADJUST	VR303 (E-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Bowtie)
M.EQ	WFM Monitor

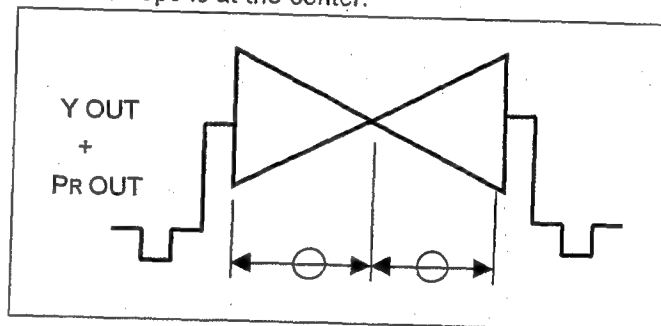
1. Set the WFM monitor in the YC timing measuring mode (CH B1 + CH B2).
2. Adjust VR303 so that the cross point of the envelope is at the center.



### 10-26. Component Y/PR Timing Adjustment

BOARD	V_OUT (F4)
SPEC.	0 $\pm$ 10nS
TEST	Y_OUT, PR_OUT
ADJUST	VR305 (E-1)
INPUT	-----
MODE	PLAY
TAPE	VFM3680KM (Bowtie)
M.EQ	WFM Monitor

1. Set the WFM monitor in the YC timing measuring mode (CH B1 + CH B2).
2. Adjust VR305 so that the cross point of the envelope is at the center.





Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP83352B	F4 V-OUT P.C BOARD	1	(RTL)	C509	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
					C510, 11	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
					C512	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
					C513-15	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	3	
C100	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C516	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C101	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C517	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C102	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C518	ECUX1H1000CV	C. CAPACITOR CH 50V 10P	1	
C103	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C519-21	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	3	
C150-60	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	11		C522	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C200-03	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4		C523-25	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	3	
C250, 51	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C528	ECUX1H271JCV	C. CAPACITOR CH 50V 270P	1	
C252	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1		C527	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C253-57	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	5		C528	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C258	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1		C529	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
C261	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C530-33	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4	
C263	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C534	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
C265	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C535-38	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4	
C267	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C539	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C300-02	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	3		C540, 41	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2	
C303	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1		C542	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C304	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C543	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C305	ECEV1GV101Q	E. CAPACITOR CH 8.3V 100U	1		C544	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C306, 07	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C545	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	1	
C308	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1		C546	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C309, 10	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C548	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	1	
C311	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1		C550	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C312	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C551	ECUX1C473KBV	C. CAPACITOR CH 18V 0.047U	1	
C313	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1		C552	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C314-16	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	3		C553	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C317	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1		C554	ECUX1C473KBV	C. CAPACITOR CH 18V 0.047U	1	
C318-23	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	6		C555	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C324	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C556	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C325, 26	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C557	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C328	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1		C558	ECUX1C473KBV	C. CAPACITOR CH 18V 0.047U	1	
C329, 30	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C559, 60	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2	
C332	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C561, 62	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C333	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1		C563, 64	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2	
C334, 35	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C565	ECUX1H1000CV	C. CAPACITOR CH 50V 10P	1	
C336, 37	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	2		C566	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C339	ECUX1H880JCV	C. CAPACITOR CH 50V 88P	1		C567	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C340	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1		C568, 69	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2	
C343	ECUX1H880JCV	C. CAPACITOR CH 50V 88P	1		C570	ECEV1GV470Q	E. CAPACITOR CH 8.3V 47U	1	
C344	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1		C571	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C346	ECUX1H0200CV	C. CAPACITOR CH 50V 2P	1		C572	ECEV1GV470Q	E. CAPACITOR CH 8.3V 47U	1	
C347	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1		C573-76	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4	
C348, 49	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	2		C800-06	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	7	
C350	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1		C700-03	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4	
C351	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C705	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C352-68	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	15		C800, 01	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	2	
C370, 71	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C802	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C372	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C803, 04	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2	
C373	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C805	ECUX1H0200CV	C. CAPACITOR CH 50V 2P	1	
C374	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C806	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C375	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C807	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C376	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C808, 09	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2	
C377	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C810	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C378	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C811-14	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4	
C400	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C815	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C401	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C816	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C402-04	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	3		C818	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C405	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1		C819	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C406	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C821	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C407	ECUX1H271JCV	C. CAPACITOR CH 50V 270P	1		C822	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C409, 10	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C824	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C412, 13	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C826	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C415	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C827	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C425	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C828	ECUX1H0200CV	C. CAPACITOR CH 50V 2P	1	
C500	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C829-32	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4	
C501	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C833	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1	
C502	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1		C834	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C503	ECUX1H821JCV	C. CAPACITOR CH 50V 820P	1		C850	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C504	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		C851	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C505	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C852-55	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4	
C506, 07	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		C856	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C508	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	1		C857	ECUX1H0700CV	C. CAPACITOR CH 50V 7P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C900	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1109	ECEV1GN100Q	E. CAPACITOR CH 18V 10U	1	
C901	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1110	ECUX1H881JV	C. CAPACITOR CH 50V 680P	1	
C902	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C1111-13	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	3	
C903	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	1		C1114	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C904, 05	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2		C1115-20	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	6	
C906	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1121	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C907	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1122	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C908	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1		C1123	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C909	ECUX1H880JCV	C. CAPACITOR CH 50V 88P	1		C1124-26	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	3	
C910, 11	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	2		C1127, 28	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	2	
C912	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	1		C1129-31	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	3	
C913	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1		C1150	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C914-16	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	3		C1151	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1	
C917	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		C1152	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C918	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1		C1153	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C919	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1154	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C920	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1155	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C921	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1156	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C922	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		C1157, 58	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	2	
C923	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C1159, 60	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	2	
C924	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C1161	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1	
C925	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1162	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C926	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1163	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1	
C927	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1		C1164	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C928	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1165	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C929	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1166, 67	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	2	
C930	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1168	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C931	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1169	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1	
C932	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1170-75	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	6	
C933	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C1176	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C934, 35	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	2		C1177	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C936	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1178	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C937	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C1179	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C938	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1180	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C939	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	1		C1181	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C940	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	1		C1182	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C941, 42	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	2		C1183	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C945	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	1		C1184	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C946	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1185	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1	
C947	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1186	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1	
C948, 49	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	2		C1187-95	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	9	
C1000	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		C1198-03	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	8	
C1001	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1204-11	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	8	
C1002	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1		C1250-53	ECUX1C104KBV	C. CAPACITOR CH 18V 0.1U	4	
C1003	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1		C1254-57	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	4	
C1004	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		C1258-61	ECUX1C104KBV	C. CAPACITOR CH 18V 0.1U	4	
C1005	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1		C1262-65	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	4	
C1006-12	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	7		C1266-69	ECUX1C104KBV	C. CAPACITOR CH 18V 0.1U	4	
C1013	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1						
C1014	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D400	MA152K	DIODE	1	
C1015-18	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	4		D500	MA152K	DIODE	1	
C1019	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1		D501, 02	MA335	DIODE	2	
C1020	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		D503	MA152K	DIODE	1	
C1021	ECEV1GV470Q	E. CAPACITOR CH 18V 47U	1		D900	MA142WK	DIODE	1	
C1023	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		D801	MA152K	DIODE	1	
C1024	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	1		D1000	MA142K	DIODE	1	
C1025-27	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	3		D1001	MA335	DIODE	1	
C1028, 29	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	2		D1050	MA152K	DIODE	1	
C1030	ECUX1H880JCV	C. CAPACITOR CH 50V 88P	1		D1100	MA142K	DIODE	1	
C1031	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1						
C1035	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		FL301	VLF1294	FILTER	1	
C1050	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		FL303	VLF1295	FILTER	1	
C1052	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		FL305	VLF1295	FILTER	1	
C1053-56	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	4		FL1150-53	VLF1018A223	FILTER	4	
C1057	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C1058	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	1		IC150, 51	SN74S1051NS	IC	2	
C1059	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		IC152	74ALS245ASJ	IC	1	
C1060	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	1		IC153, 54	74ALS541SJ	IC	2	
C1082	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		IC156	VSI2391B	IC	1	
C1100, 01	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	2		IC157	SN74S1051NS	IC	1	
C1103	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		IC158	MC74HC574AF	IC	1	
C1104	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1		IC159	UPD71055GB	IC	1	
C1105	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	1		IC160	MC74HC574AF	IC	1	
C1106	ECEV1GV100Q	E. CAPACITOR CH 18V 10U	1		IC161	SN74S1051NS	IC	1	
C1107, 08	ECUX1E1042FV	C. CAPACITOR CH 25V 0.1U	2		IC163	MC74HC74AF	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC200, 01	MC74HC574AF	IC	2	
IC202	MC74HC541AF	IC	1	
IC203	TC7SH08FU	IC	1	
IC250	XC82AF3002P	IC	1	
IC251	UPD65840G024	IC	1	
IC254	74F244SJ	IC	1	
IC256	74F244SJ	IC	1	
IC300	NJM082BM	IC	1	
IC301	NJM084M	IC	1	
IC303	MC74HC244AF	IC	1	
IC308-08	MB40778PF	IC	3	
IC309-11	EL4088CS	IC	3	
IC312, 13	MC14053BF	IC	2	
IC500	NJM082BM	IC	1	
IC502	MC74HC4053F	IC	1	
IC503	M51272FP	IC	1	
IC800	74ALS541SJ	IC	1	
IC801-03	MC10H124M	IC	3	
IC700	VS12500C	IC	1	
IC702	74F244SJ	IC	1	
IC800	EL4088CS	IC	1	
IC801	NJM082BM	IC	1	
IC802	NJM2534V	IC	1	
IC805	AD828AR	IC	1	
IC850	NJM2534V	IC	1	
IC900	AN81A12S	IC	1	
IC902	NE521D	IC	1	
IC904	MC74HC04AF	IC	1	
IC908, 09	MM74HC221AM	IC	2	
IC910	MC74HC125AF	IC	1	
IC913	NJM082BM	IC	1	
IC915	SN74LS221NS	IC	1	
IC916	NJM082BM	IC	1	
IC923-25	TC7SH00FU	IC	3	
IC1000	NE521D	IC	1	
IC1001	DAC10GS	IC	1	
IC1002	MC14053BF	IC	1	
IC1003	NJM082BM	IC	1	
IC1004	TC7SH08FU	IC	1	
IC1005	NJM084M	IC	1	
IC1015	TC7SH00FU	IC	1	
IC1051	NJM082BM	IC	1	
IC1053	SN74AS74ANS	IC	1	
IC1055, 56	SN74AS244AN	IC	2	
IC1057	SN74AS74ANS	IC	1	
IC1100	NJM084M	IC	1	
IC1102	DAC10GS	IC	1	
IC1103	SN74LS221NS	IC	1	
IC1108	UPD65850J203	IC	1	
IC1107, 08	MC74HC04AF	IC	2	
IC1113	MC74HC244AF	IC	1	
IC1114	MC74HC00AF	IC	1	
IC1115, 16	SN74LS221NS	IC	2	
IC1150	NJM78L09UA	IC	1	
IC1151	NJM78L05UA	IC	1	
IC1152	NJM78L05UA	IC	1	
IC1153	NJM78L09UA	IC	1	
IC1154	AN78N05	IC	1	
IC1155	NJM78L09UA	IC	1	
IC1156	NJM78L09UA	IC	1	
IC1157	NJM78L05UA	IC	1	
IC1158	NJM78L05UA	IC	1	
IC1159	NJM78L09UA	IC	1	
IC1160	AN78N09	IC	1	
IC1161	NJM78L05UA	IC	1	
IC1162	NJM78L05UA	IC	1	
IC1163	AN78N09	IC	1	
IC1165, 66	NJM78L09UA	IC	2	
IC1167, 68	NJM78L09UA	IC	2	
L100-06	VLP0133	COIL	7	
L302, 03	VLQ0163J6R8	COIL	6.8UH 2	
L304	VLQ0163J120	COIL	12UH 1	
L305, 06	VLQ0163J560	COIL	56UH 2	
L307	VLQ0163J220	COIL	22UH 1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L400	VLQ0163J101	COIL	100UH 1	
L500-02	VLQ0163J220	COIL	22UH 3	
L503	VLQ0163J270	COIL	27UH 1	
L504	VLQ0163J820	COIL	82UH 1	
L505, 08	VLQ0163J470	COIL	47UH 2	
L507	VLQ0163J150	COIL	15UH 1	
L508	VLQ0163J5R6	COIL	5.6UH 1	
L509	VLQ0163J470	COIL	47UH 1	
L510	VLQ0163J8R8	COIL	8.8UH 1	
L800	VLQ0163J150	COIL	15UH 1	
L801, 02	VLQ0163J220	COIL	22UH 2	
L850	VLQ0163J180	COIL	18UH 1	
L900	VLQ0163J101	COIL	100UH 1	
L901	VLQ0163J221	COIL	220UH 1	
L902	VLQ0163J390	COIL	39UH 1	
L903-08	VLQ0163J470	COIL	47UH 6	
L1000	VLQ0163J470	COIL	47UH 1	
L1001	VLQ0163J221	COIL	220UH 1	
L1002, 03	VLQ0163J220	COIL	22UH 2	
L1004	VLQ0163J470	COIL	47UH 1	
L1100, 01	VLQ0163J220	COIL	22UH 2	
P1, P2	VJP3454B086	CONNECTOR (MALE)	2	
P3	VJP1233T	CONNECTOR (MALE)	8P 1	
Q300-05	2SD601A-R	TRANSISTOR	6	
Q306-14	2SB709A-R	TRANSISTOR	9	
Q315-17	2SD601A-R	TRANSISTOR	3	
Q318, 19	2SB709A-R	TRANSISTOR	2	
Q400	2SC2404-D	TRANSISTOR	1	
Q401-03	2SB709A-R	TRANSISTOR	3	
Q404, 05	2SD601A-R	TRANSISTOR	2	
Q406, 07	2SB709A-R	TRANSISTOR	2	
Q408-10	2SD601A-R	TRANSISTOR	3	
Q500	2SB709A-R	TRANSISTOR	1	
Q501, 02	2SC2295-C	TRANSISTOR	2	
Q503, 04	2SB709A-R	TRANSISTOR	2	
Q505	2SC2295-C	TRANSISTOR	1	
Q506, 07	2SB709A-R	TRANSISTOR	2	
Q508	2SD601A-R	TRANSISTOR	1	
Q509	XN6501	TRANSISTOR-RESISTOR	1	
Q510	2SD601A-R	TRANSISTOR	1	
Q511, 12	2SC2295-C	TRANSISTOR	2	
Q513	2SD601A-R	TRANSISTOR	1	
Q514	2SB709A-R	TRANSISTOR	1	
Q800, 01	2SA1532-B	TRANSISTOR	2	
Q802, 03	2SD601A-R	TRANSISTOR	2	
Q804	2SB709A-R	TRANSISTOR	1	
Q806, 07	2SB709A-R	TRANSISTOR	2	
Q850	2SA1532-B	TRANSISTOR	1	
Q851	2SB709A-R	TRANSISTOR	1	
Q1000	2SB709A-R	TRANSISTOR	1	
Q1001, 02	2SK608-R	TRANSISTOR	2	
QR200	UN2212	TRANSISTOR-RESISTOR	1	
QR201	MUN2213	TRANSISTOR-RESISTOR	1	
QR202	MUN2112	TRANSISTOR-RESISTOR	1	
QR300	MUN2213	TRANSISTOR-RESISTOR	1	
QR301	MUN2112	TRANSISTOR-RESISTOR	1	
R151, 52	ERJ3GEYJ101	M. RESISTOR CH 1/16W	100 2	
R153, 54	ERJ3GEYJ102	M. RESISTOR CH 1/16W	1K 2	
R155-65	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K 11	
R166-69	ERJ3GEYJ102	M. RESISTOR CH 1/16W	1K 4	
R170-80	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K 11	
R181, 82	ERJ3GEYJ102	M. RESISTOR CH 1/16W	1K 2	
R183-85	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K 3	
R186	ERJ3GEYOR00	M. RESISTOR CH 1/16W	0 1	
R200-21	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K 22	
R222	ERJ3GEYJ102	M. RESISTOR CH 1/16W	1K 1	
R223, 24	ERJ3GEYJ101	M. RESISTOR CH 1/16W	100 2	
R225-32	ERJ3GEYJ102	M. RESISTOR CH 1/16W	1K 8	
R234	ERJ3GEYOR00	M. RESISTOR CH 1/16W	0 1	
R239	ERJ3GEYOR00	M. RESISTOR CH 1/16W	0 1	
R250	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K 1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R252	ERJ3GEYJ680	M. RESISTOR CH 1/16W	68	1	R404	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1
R253	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R405	ERJ3GEY6472	M. RESISTOR CH 1/16W	4.7K	1
R254	ERJ3GEYOR00	M. RESISTOR CH 1/16W	0	1	R408, 07	ERJ3GEYJ221	M. RESISTOR CH 1/16W	220	2
R255	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	1	R408	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1
R258	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	1	R409	ERJ6RBD752	M. RESISTOR CH 1/10W	7.5K	1
R260	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	1	R410	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1
R262, 73	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	2	R411	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1
R266-70	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	5	R412	ERJ3GEY6332	M. RESISTOR CH 1/16W	3.3K	1
R273, 74	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	2	R413	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1
R276	ERJ3GEYJ101	M. RESISTOR CH 1/16W	100	1	R414	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1
R302	ERJ3GEYJ473	M. RESISTOR CH 1/16W	47K	1	R415, 16	ERJ3GEYJ221	M. RESISTOR CH 1/16W	220	2
R303	ERJ3GEY6472	M. RESISTOR CH 1/16W	4.7K	1	R417, 18	ERJ6RBD221	M. RESISTOR CH 1/10W	220	2
R304	ERJ3GEYJ153	M. RESISTOR CH 1/16W	15K	1	R419	ERJ6RBD271	M. RESISTOR CH 1/10W	270	1
R305	ERJ3GEYJ563	M. RESISTOR CH 1/16W	56K	1	R420	ERJ6RBD121	M. RESISTOR CH 1/10W	120	1
R306	ERJ3GEYJ223	M. RESISTOR CH 1/16W	22K	1	R421	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1
R307	ERJ3GEYJ101	M. RESISTOR CH 1/16W	100	1	R422	ERJ6RBD121	M. RESISTOR CH 1/10W	120	1
R308, 09	ERJ3RBD472	M. RESISTOR CH 1/10W	4.7K	2	R423, 24	ERJ6RBD271	M. RESISTOR CH 1/10W	270	2
R310, 11	ERJ3RBD103	M. RESISTOR CH 3W	10K	2	R425	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1
R312	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1	R426	ERJ6RBD121	M. RESISTOR CH 1/10W	120	1
R313	ERJ3GEYJ272V	M. RESISTOR CH 1/16W	2.7K	1	R427	ERJ6RBD221	M. RESISTOR CH 1/10W	220	1
R314	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1	R428	ERJ6RBD181	M. RESISTOR CH 1/10W	180	1
R315, 18	ERJ3GEYJ331	M. RESISTOR CH 1/16W	330	2	R429	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1
R317	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1	R430	ERJ3GEY6471	M. RESISTOR CH 1/16W	470	1
R318	ERJ3GEYJ331	M. RESISTOR CH 1/16W	330	1	R431	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1
R320	ERJ3GEYOR00	M. RESISTOR CH 1/16W	0	1	R432	ERJ3GEY6471	M. RESISTOR CH 1/16W	470	1
R321	ERJ3GEYJ331	M. RESISTOR CH 1/16W	330	1	R433	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1
R322	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1	R434, 35	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	2
R323, 24	ERJ3GEYJ331	M. RESISTOR CH 1/16W	330	2	R500	ERJ3GEYJ821	M. RESISTOR CH 1/16W	820	1
R326	ERJ3GEYOR00	M. RESISTOR CH 1/16W	0	1	R502, 03	ERJ3GEYJ272V	M. RESISTOR CH 1/16W	2.7K	2
R328-32	ERJ3GEY6471	M. RESISTOR CH 1/16W	470	4	R504	ERJ3GEY6471	M. RESISTOR CH 1/16W	470	1
R334	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1	R505	ERJ3GEYJ101	M. RESISTOR CH 1/16W	100	1
R336	ERJ3GEYJ331	M. RESISTOR CH 1/16W	330	1	R506	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1
R337	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1	R507	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	1
R338	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R509	ERJ3GEYJ393	M. RESISTOR CH 1/16W	39K	1
R339	ERJ3GEYJ101	M. RESISTOR CH 1/16W	100	1	R510	ERJ3GEY6332	M. RESISTOR CH 1/16W	3.3K	1
R340	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R511	ERJ3GEYJ562	M. RESISTOR CH 1/16W	5.6K	1
R341	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	1	R513	ERJ3GEYJ473	M. RESISTOR CH 1/16W	47K	1
R342	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R514	ERJ3GEY6472	M. RESISTOR CH 1/16W	4.7K	1
R343	ERJ3GEYJ101	M. RESISTOR CH 1/16W	100	1	R515	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1
R344	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R516	ERJ3GEYJ391	M. RESISTOR CH 1/16W	390	1
R345	ERJ3GEYJ101	M. RESISTOR CH 1/16W	100	1	R517	ERJ3GEY6152	M. RESISTOR CH 1/16W	1.5K	1
R347, 48	ERJ3GEYJ221	M. RESISTOR CH 1/16W	220	2	R518	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1
R349	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R519, 20	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	2
R350	ERJ3GEYJ821	M. RESISTOR CH 1/16W	820	1	R521	ERJ3GEY6152	M. RESISTOR CH 1/16W	1.5K	1
R351-53	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	3	R522	ERJ3GEYJ330	M. RESISTOR CH 1/16W	33	1
R354	ERJ3GEYJ821	M. RESISTOR CH 1/16W	820	1	R523	ERJ3GEYJ823	M. RESISTOR CH 1/16W	82K	1
R355, 56	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	2	R524	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1
R357	ERJ3GEYJ151	M. RESISTOR CH 1/16W	150	1	R525	ERJ3GEYJ105	M. RESISTOR CH 1/16W	1M	1
R358	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1	R526	ERJ3GEYJ124	M. RESISTOR CH 1/16W	120K	1
R359	ERJ3GEYJ124	M. RESISTOR CH 1/16W	120K	1	R527	ERJ3GEY6152	M. RESISTOR CH 1/16W	1.5K	1
R361	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1	R528	ERJ3GEY6332	M. RESISTOR CH 1/16W	3.3K	1
R362	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R529	ERJ3GEYJ562	M. RESISTOR CH 1/16W	5.6K	1
R363	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1	R530	ERJ3GEYJ473	M. RESISTOR CH 1/16W	47K	1
R364	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R531	ERJ3GEY6472	M. RESISTOR CH 1/16W	4.7K	1
R366	ERJ3GEYJ121	M. RESISTOR CH 1/16W	120	1	R532-34	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	3
R367	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1	R535, 36	ERJ3GEY6152	M. RESISTOR CH 1/16W	1.5K	2
R368	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R537, 38	ERJ3GEYJ333	M. RESISTOR CH 1/16W	33K	2
R369	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1	R539	ERJ3GEY6152	M. RESISTOR CH 1/16W	1.5K	1
R370	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1	R540, 41	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	2
R372	ERJ3GEYJ121	M. RESISTOR CH 1/16W	120	1	R542	ERJ3GEYJ100	M. RESISTOR CH 1/16W	10	1
R374, 75	ERJ3GEYJ562	M. RESISTOR CH 1/16W	5.6K	2	R543	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1
R378	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1	R544, 45	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	2
R379	ERJ3GEY6152	M. RESISTOR CH 1/16W	1.5K	1	R546	ERJ3GEYJ333	M. RESISTOR CH 1/16W	33K	1
R380	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1	R547, 48	ERJ3GEY6152	M. RESISTOR CH 1/16W	1.5K	2
R382	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1	R549	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1
R383	ERJ3GEY6152	M. RESISTOR CH 1/16W	1.5K	1	R550	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1
R384	ERJ3GEYJ151	M. RESISTOR CH 1/16W	150	1	R551	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1
R385	ERJ6RBD752	M. RESISTOR CH 1/10W	7.5K	1	R554	ERJ3GEYJ391	M. RESISTOR CH 1/16W	390	1
R386-88	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	3	R555	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	1
R391, 92	ERJ3GEYJ222	M. RESISTOR CH 1/16W	2.2K	2	R556, 57	ERJ3GEYJ181	M. RESISTOR CH 1/10W	180	2
R393, 94	ERJ3GEYJ103	M. RESISTOR CH 1/16W	10K	2	R558	ERJ3GEYJ681	M. RESISTOR CH 1/16W	680	1
R400	ERJ3GEY6332	M. RESISTOR CH 1/16W	3.3K	1	R559	ERJ6RBD301	M. RESISTOR CH 1/10W	300	1
R401	ERJ3GEY6472	M. RESISTOR CH 1/16W	4.7K	1	R560	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1
R402	ERJ3GEYJ153	M. RESISTOR CH 1/16W	15K	1	R561	ERJ3GEYJ470	M. RESISTOR CH 1/16W	47	1
R403	ERJ6RBD151	M. RESISTOR CH 1/10W	150	1	R563	ERJ3GEY6102	M. RESISTOR CH 1/16W	1K	1

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R564	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R565	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R566	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R567, 68	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	2	
R568, 70	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	2	
R571	ERJ3GEYJ301	M. RESISTOR CH 1/16W 300	1	
R572	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R573	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R574	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R575	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R576	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R577	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R578	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R579	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R580	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R581	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R800	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R801-10	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	10	
R811-34	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	24	
R835-58	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	24	
R700, 01	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R702	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R800	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R801	ERJ3GEYJ271	M. RESISTOR CH 1/16W 270	1	
R802	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R803	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R804	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R806	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R810	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R812	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R813, 14	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	2	
R815	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R816	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R817	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R820	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R821	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R822	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R823	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R824	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R825	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R826	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R828	VRE006610102	M. RESISTOR CH 1/16W 1K	1	
R829, 30	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2	
R831, 32	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R833	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R834-36	ERJ3RBD152	M. RESISTOR CH 3W 1.5K	3	
R837	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R838-40	ERJ3RBD152	M. RESISTOR CH 3W 1.5K	3	
R841	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R842	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1	
R843	ERJ3RBD181	M. RESISTOR CH 3W 180	1	
R844, 45	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	2	
R849, 50	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	2	
R851	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R852	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R853	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R854	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R855, 56	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	2	
R857	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R858, 59	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R860	ERJ3GEYJ220	M. RESISTOR CH 1/16W 22	1	
R861	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R862	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R863	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R864	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R865	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R866	ERJ3GEYJ272V	M. RESISTOR CH 1/16W 2.7K	1	
R870	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R871	ERJ3GEYJ123	M. RESISTOR CH 1/16W 12K	1	
R881	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R900	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1	
R901	ERJ3GEYJ684	M. RESISTOR CH 1/16W 680K	1	
R902	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R903	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R904, 05	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R908, 07	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	2	
R908-10	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	3	
R911	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1	
R912	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R913	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R914	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R915	ERJ3GEYJ682	M. RESISTOR CH 1/16W 8.2K	1	
R916	ERJ3GEYJ682	M. RESISTOR CH 1/16W 8.8K	1	
R917	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R918	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R919	ERJ3GEYJ272V	M. RESISTOR CH 1/16W 2.7K	1	
R920	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R921, 22	ERJ3RBD102	M. RESISTOR CH 3W 1K	2	
R923	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R924	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R925, 26	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R927	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R928	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R929	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R930	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R931	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R932	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R933	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R934, 35	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R950	ERD52TJ273	C. RESISTOR 1/4W 27K	1	
R1000	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R1001	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R1002	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1003	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1005	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R1006, 07	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
R1008	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R1009	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R1010	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R1011	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1013	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R1014	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R1015	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1016	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1018	ERJ3GEYJ682	M. RESISTOR CH 1/16W 8.2K	1	
R1019	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R1020	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R1021	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1022, 23	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R1024	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R1025	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1026	ERJ3GEYJ682	M. RESISTOR CH 1/16W 8.2K	1	
R1027	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R1028	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1030	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1036	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1050	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R1051	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1052	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R1053	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R1054	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1055	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R1056	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1057	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1058	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1060	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1100	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R1101	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R1103	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R1104	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1105, 06	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
R1107	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R1108	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R1109	ERJ3GEYJ682	M. RESISTOR CH 1/16W 8.8K	1	
R1110	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1112	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1115	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R1118, 20	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	2	
R1122	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R1123	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	



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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R1124	ERJ3GEY0682	M. RESISTOR CH 1/16W 6.8K	1	
R1125	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1126	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1127	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R1128	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R1129	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R1136	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
TG100	VJR0846	TEST POINT	1	
TG801	VJR0846	TEST POINT	1	
TG1108	VJR0846	TEST POINT	1	
TH500	ERTD2FHL102S	THERMISTOR	1K 1	
TP300	VJR0846	TEST POINT	1	
TP803	VJR0846	TEST POINT	1	
TP805	VJR0846	TEST POINT	1	
TP1001	VJR0846	TEST POINT	1	
TP1100	VJR0846	TEST POINT	1	
TP1102-05	VJR0846	TEST POINT	4	
VC500	ECV1ZW30X53	TRIMMER	1	
VC1000	ECV1ZW20X53T	TRIMMER	1	
VR300	EVMEGSA00B24	V. RESISTOR	20K 1	
VR301	EVMEGSA00B12	V. RESISTOR	100 1	
VR302-04	EVMEGSA00B13	V. RESISTOR	1K 3	
VR305, 06	EVMEGSA00B32	V. RESISTOR	500 2	
VR307	EVMEGSA00B13	V. RESISTOR	1K 1	
VR310	VRV0113B102	V. RESISTOR	1K 1	
VR400	EVMEGSA00B13	V. RESISTOR	1K 1	
VR500-02	EVMEGSA00B53	V. RESISTOR	5K 3	
VR503, 04	EVMEGSA00B13	V. RESISTOR	1K 2	
VR505, 06	EVMEGSA00B23	V. RESISTOR	2K 2	
VR507	EVMEGSA00B13	V. RESISTOR	1K 1	
VR800	EVMEGSA00B53	V. RESISTOR	5K 1	
VR801	EVMEGSA00B13	V. RESISTOR	1K 1	
VR802	EVMEGSA00B53	V. RESISTOR	5K 1	
VR803	EVMEGSA00B13	V. RESISTOR	1K 1	
VR900	EVMEGSA00B24	V. RESISTOR	20K 1	
VR901	EVMEGSA00B14	V. RESISTOR	10K 1	
VR902	EVMEGSA00B53	V. RESISTOR	5K 1	
VR1000	EVMEGSA00B24	V. RESISTOR	20K 1	
VR1050	EVMEGSA00B53	V. RESISTOR	5K 1	
VR1100	EVMEGSA00B53	V. RESISTOR	5K 1	
VR1102	EVMEGSA00B53	V. RESISTOR	5K 1	
X800	VSX0270	CRYSTAL OSCILLATOR	1	
X801	VSX0567A	CRYSTAL OSCILLATOR	1	
X1000	VSX0363	CRYSTAL OSCILLATOR	1	
X1050	VSX0788	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VM.2143	CARD PULLER		
	VM.2144	CARD PULLER		



# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Change of Blinder Panel**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	104	VSD9606M502A	H7TRB0001
AJ-D650E	76	VSD9612MJ01A	H7TRA0001
AJ-D640E	76	VSD9612MJ01A	H7TRA0001

### Front Panel Assembly

To prevent the S cassette from inserting without the adaptor incorrectly, the caution letter is printed to the Blinder Panel. According to this change, the Blinder Panel is changed from VKF2688 to VKF2785.

#### AJ-D750

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
3	VKF2688	VKF2785	BLINDER	1	

#### AJ-D650/D640

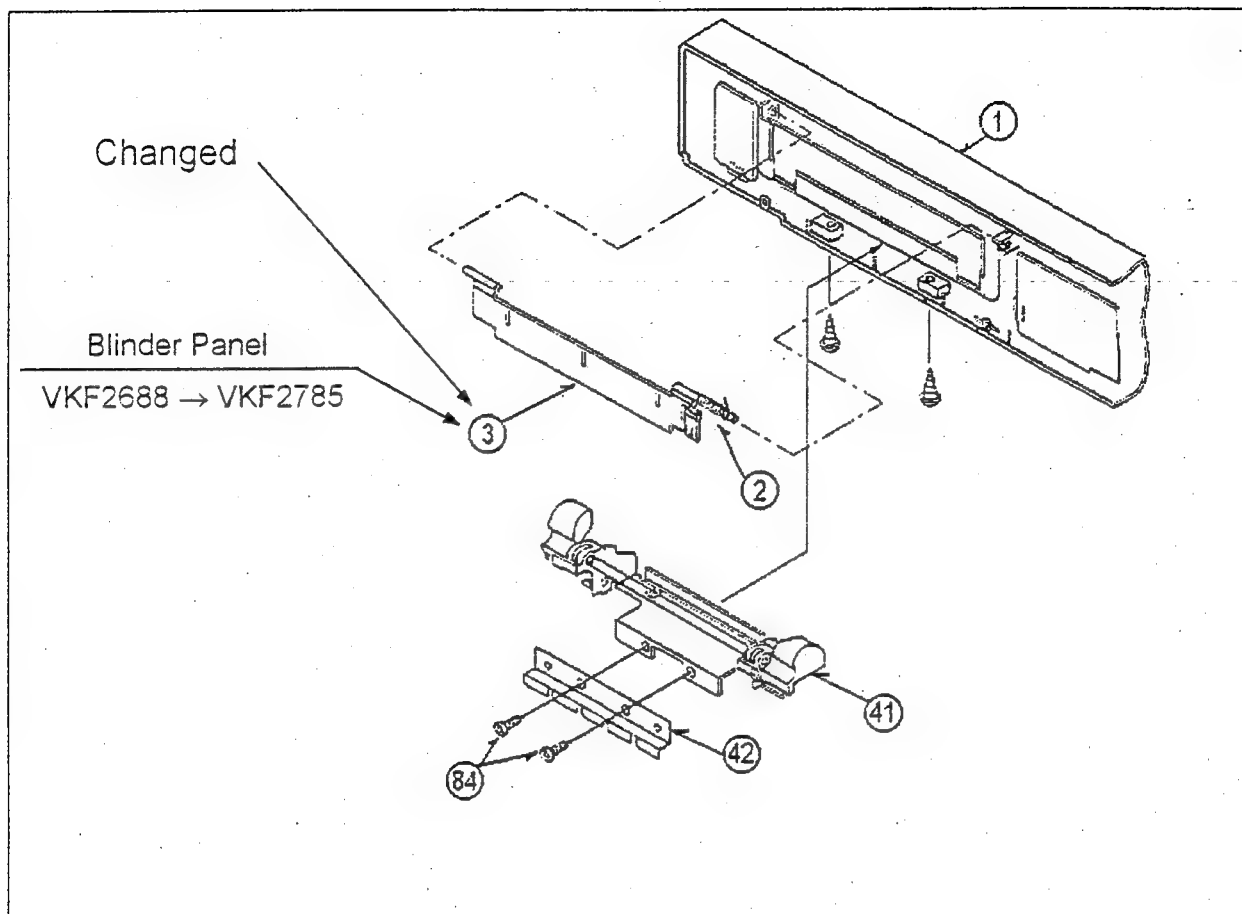
Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
6	VKF2688	VKF2785	BLINDER PANEL	1	

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Reduction of Noisy Sound**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	105	VSD9606M502A	H7TRB0001
AJ-D650E	77	VSD9612MJ01A	H7TRA0001
AJ-D640E	77	VSD9612MJ01A	H7TRA0001
AJ-LT75E	21	VSD9707M602A	H7TNA0001
AJ-D230E	16	VSD9708M605	I7TDA0001

### Mechanical Chassis Assembly (2)

**Symptom :** Noisy sound may be heard from the Motor Emergency Gear during Loading mode.

**Cause :** Motor Emergency Gear (A) and (B) may always be contact with the Loading Motor Gear. It results in noisy sound.

**Remedy :** To reduce the noisy sound, the following modification is performed.

- 1). Loading Motor, Motor Emergency Gear (A) and (B) are changed.
- 2). E.E. Spring (VMB3192) is added under the Motor Emergency Gear (A) as shown in figure 2.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
7	VEM0584	VEM0645	LOADING MOTOR (1) AU	1	
43	VDG1187	VDG1268	MOTOR EMERGENCY GEAR A	1	
44	VDG1186	VDG1267	MOTOR EMERGENCY GEAR B	1	
56	--	VMB3192	E.E. SPRING	0→1	

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# Technical Bulletin

## ***Supplement to the Service Manual***

Broadcast Product

**Subject : Change of Factory Default Setting of DIP SW 501-8**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	78	VSD9612MJ01A/B	H7TRA0001
AJ-D640E	78	VSD9612MJ01A/B	H7TRA0001

Board : System Control (F2:VEP86146E) - AJ-D650  
System Control (F2:VEP86146F) - AJ-D640

Factory default setting of DIP SW 501-8 on F2 System Control P.C.Board is set to ON from the August 1997 production. According to this, the following function can be available.

- 1). RS-232C Control function
- 2). DVCPRO/DV/DVCAM Playback select function

Regarding to the details information, please refer to the Technical Bulletin No. VSD9705SC620.

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Countermeasure for Power Supply OFF

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	107	VSD9606M502A/B	I7TRB0001
AJ-D650E	79	VSD9612MJ01A/B	I7TRA0001
AJ-D640E	79	VSD9612MJ01A/B	I7TRA0001

Board : Power 1 (VEP81074B)  
Power 2 (VEP81075B)

Symptom : Power may be turned OFF suddenly.

Cause : 1). As the noise may jump into the Power Supply Protection circuit, it may malfunction.  
2). Fixing screw of Power 2 Board may be loosened.  
3). Noise may appear due to the high impedance between P.C. Board and Head Sink.

Remedy : To prevent the Power OFF, the Power 1 and Power 2 Boards are changed as follows and the following modification is performed.

Power 1 Board (VEP81074B-3/VJB81074-3)

Power 2 Board (VEP81075B-2/VJB81075-1)

\* The unit produced before Serial Number I7TNB\*\*\*\* (AJ-D750) or I7TNA\*\*\*\* (AJ-D650/D640)  
< Power 1 Board >

- 1). Resistor R1002 is changed from 1/4W, 4.7K $\Omega$  to 1/4W, 6.8K $\Omega$  on the component side as shown in figures 1 and 3.
- 2). Resistor R1025 is changed from 1/4W, 10K $\Omega$  to 1/4W, 33K $\Omega$  on the component side as shown in figures 1 and 3.
- 3). Resistor R1044 (1/4W, 100K $\Omega$ ) is removed and new resistor R1044 (1/4W, 68K $\Omega$ ) and capacitor C1033 (50V/0.082 $\mu$ F) are inserted to the same portion together after the removing portion of old R1044 on the component side as shown in figures 1 and 3.
- 4). Solders of the screw holes are absorbed on the component side as shown in figure 2.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C1033	—	ECQV1H823JL	P. CAPACITOR 50V 0.082U	0→1	
R1002	ERDS2FJ472	ERDS2FJ682	C. RESISTOR 1/4W 6.8K	1	
R1025	ERDS2FJ103	ERDS2FJ333	C. RESISTOR 1/4W 33K	1	
R1044	ERDS2FJ104	ERDS2FJ683	C. RESISTOR 1/4W 68K	1	

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< Power 2 Board >

- 1). Four fixing screws for Heat Sink are changed from XYN3+C8FZS to XYE3+EF8 on the foil side as shown in figure 4.
- 2). After change of screws, two of them are tightened more and more on the foil side as shown in figures 4.
- 3). Solder of the screw hole is absorbed on the component side as shown in figure 5.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	XYN3+C8FZS	XYE3+EF8	SCREW	4	

< Power Unit >

- 1). After installing the Power 1 Board, two washers (XWC4BFY) are added to the fixing screws on the component side as shown in figure 6.
- 2). After installing the two washers to the fixing screws, they are tightened more and more on the component side as shown in figure 6.
- 3). The fixing screws for Power 2 Board are tightened more and more as shown in figure 8.
- 4). After installing the Power 2 Board, the insulation sheet (VMZ2503) is changed to transparency type on the component side as shown in figure 7.
- 5). The fixing screw for Power Box is tightened more and more as shown in figure 9.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	---	XWC4BFY	WASHER	0→2	
	VMZ2503	VMZ2503	INSULATION SHEET	1	

**\* The unit produced after Serial Number I7TNB\*\*\*\* (AJ-D750) or I7TNA\*\*\*\* (AJ-D650/D640)**

< Power 1 Board >

- 1). A new pattern layout P.C. Board (VJB81074-3/VEP81074B-3) is introduced.
- 2). Resistor R1002 is changed from 1/4W, 4.7K $\Omega$  to 1/4W, 6.8K $\Omega$  on the component side as shown in figures 1 and 3.
- 3). Resistor R1025 is changed from 1/4W, 10K $\Omega$  to 1/4W, 33K $\Omega$  on the component side as shown in figures 1 and 3.
- 4). Resistor R1044 (1/4W, 100K $\Omega$ ) is removed and new resistor R1044(1/4W, 68K $\Omega$ ) and capacitor C1033 (50V/0.082 $\mu$ F) are inserted after the removing portion of old R1044 on the component side as shown in figures 1 and 3.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C1033	---	ECQV1H823JL	P. CAPACITOR 50V 0.082U	0→1	
R1002	ERDS2FJ472	ERDS2FJ682	C. RESISTOR 1/4W 6.8K	1	
R1025	ERDS2FJ103	ERDS2FJ333	C. RESISTOR 1/4W 33K	1	
R1044	ERDS2FJ104	ERDS2FJ683	C. RESISTOR 1/4W 68K	1	

< Power 2 Board >

- 1). A new pattern layout P.C. Board (VJB81075-1/VEP81075B-2) is introduced.
- 2). Four fixing screws for Heat Sink are changed from XYN3+C8FZS to XYE3+EF8 on the foil side as shown in figure 4.
- 3). Earth lug is added to the foil side as shown in figure 10.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	XYN3+C8FZS	XYE3+EF8	SCREW	4	
	---	VEE0C18	EARTH LUG	0→1	

< Power Unit >

- 1). Insulation Sheet (VMZ2502) is changed to transparency type as shown in figure 6.
- 2). After installing the Power 1 Board, two washers (XWC4BFY) are added to the fixing screws on the component side as shown in figure 6.
- 3). After installing the two washers to the fixing screws, they are tightened more and more on the component side as shown in figure 6.

- 4). The fixing screws for Power 2 Board are tightened more and more as shown in figure 8.
- 5). After installing the Power 2 Board, the insulation sheet (VMZ2503) is changed to transparency type on the component side as shown in figure 7
- 6). The fixing screw for Power Box is tightened more and more as shown in figure 9.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	---	XWC4BFY	WASHER	0→2	
	VMZ2502	VMZ2502	INSULATION SHEET	1	
	VMZ2503	VMZ2503	INSULATION SHEET	1	

Power 1 Schematic Diagram

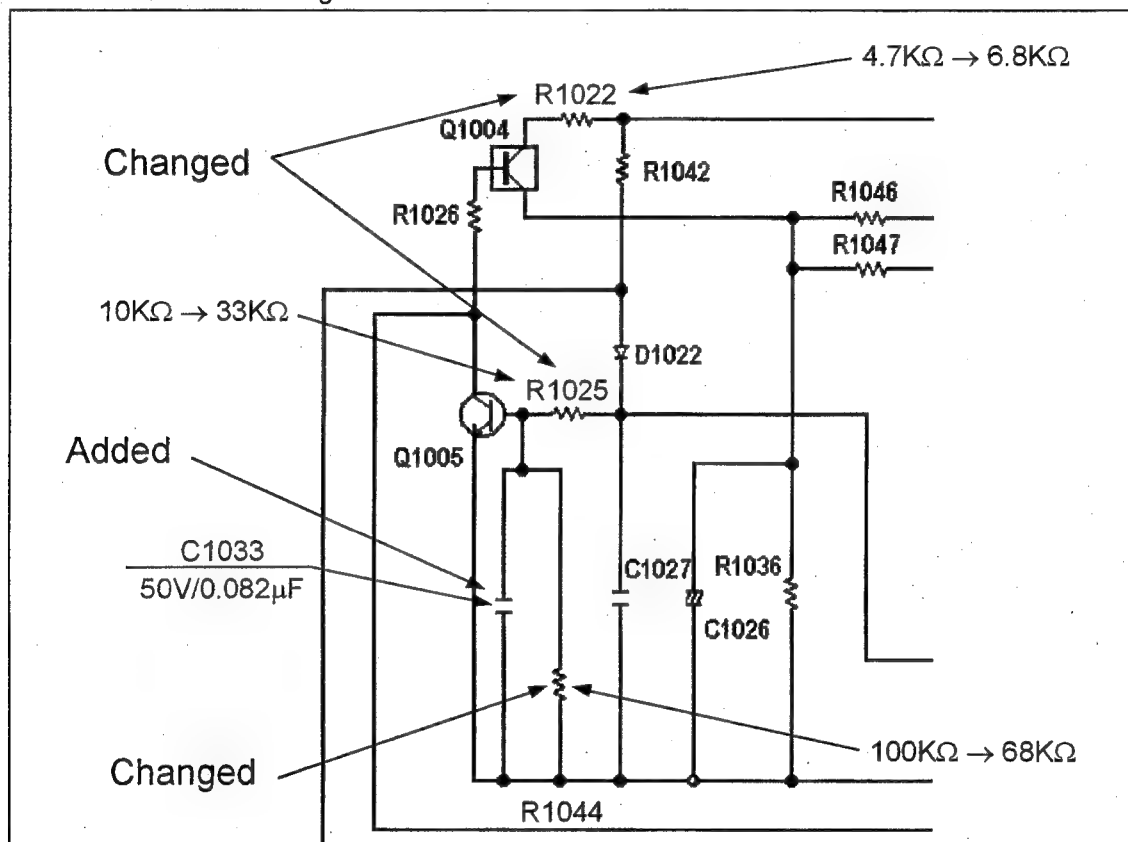


Fig. 1

Power 1 P.C. Board (VEP81074A)

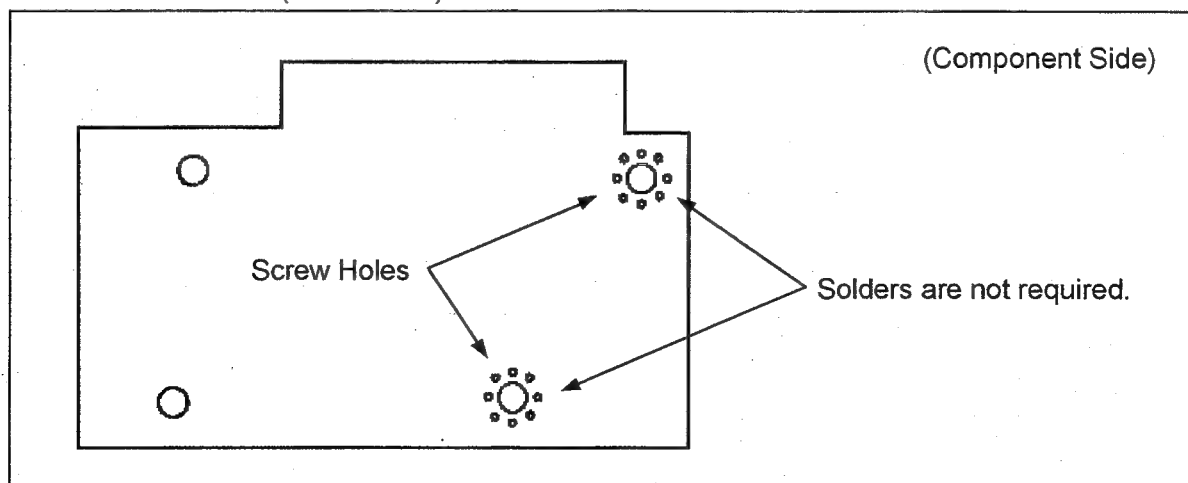


Fig. 2

Power 1 P.C. Board (VEP81074A)

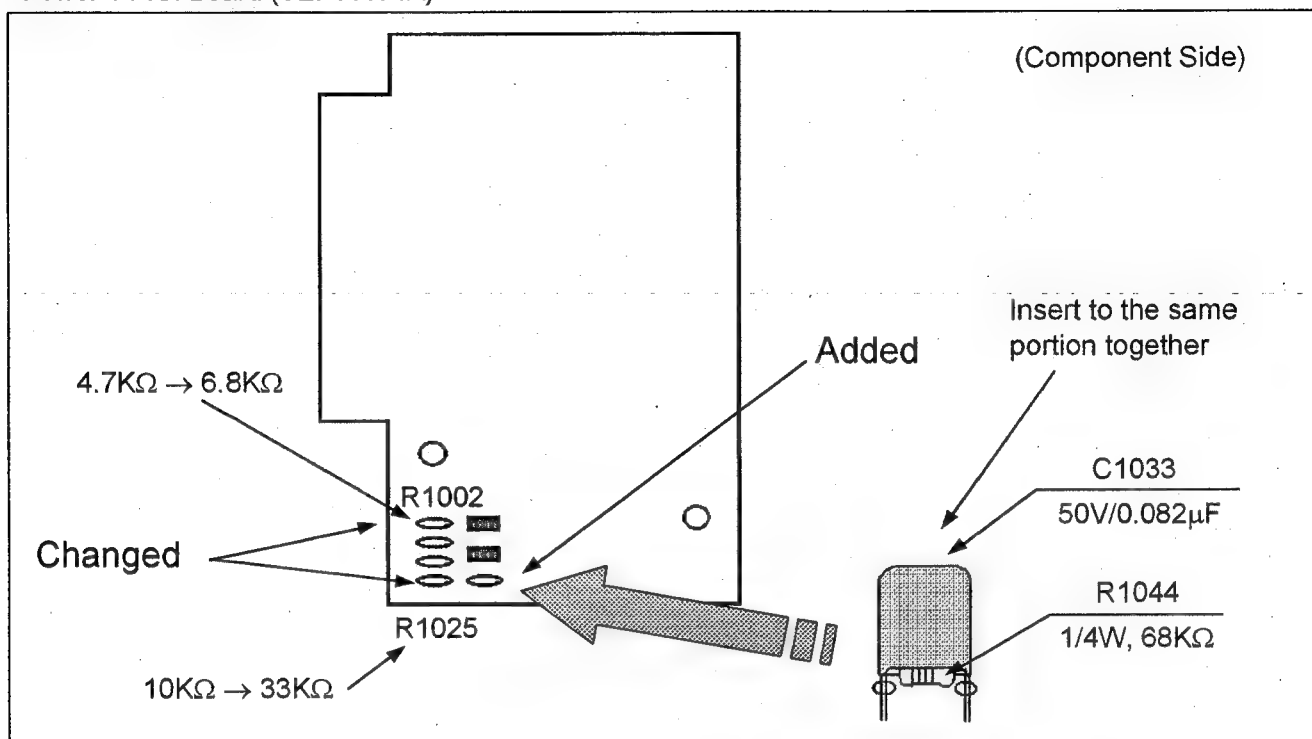


Fig. 3

Power 2 P.C. Board (VEP81075A)

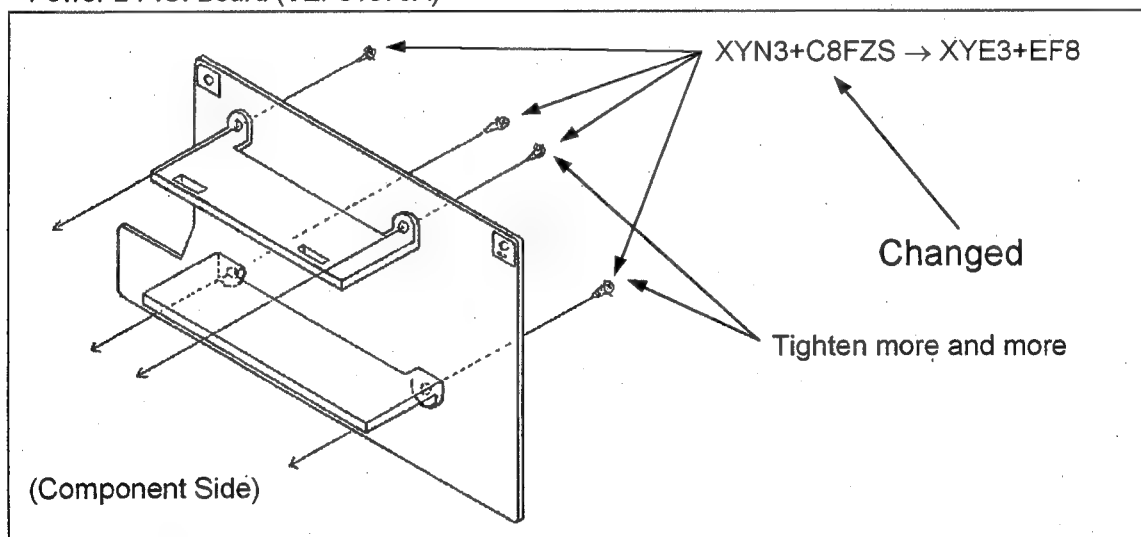


Fig. 4

Power 2 P.C. Board (VEP81075A)

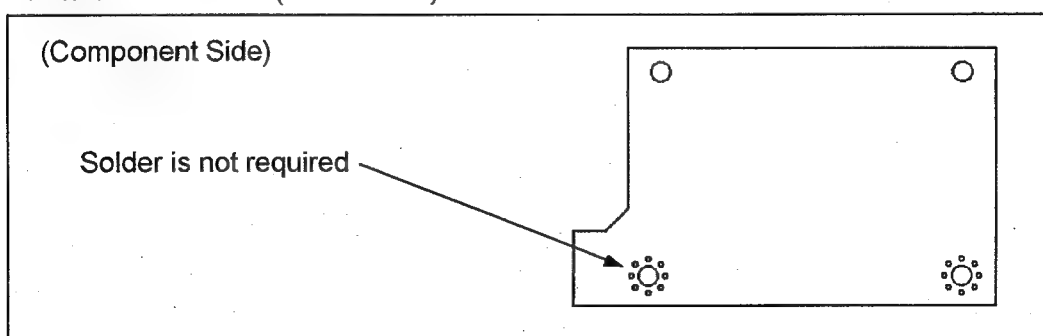


Fig. 5



Power Unit

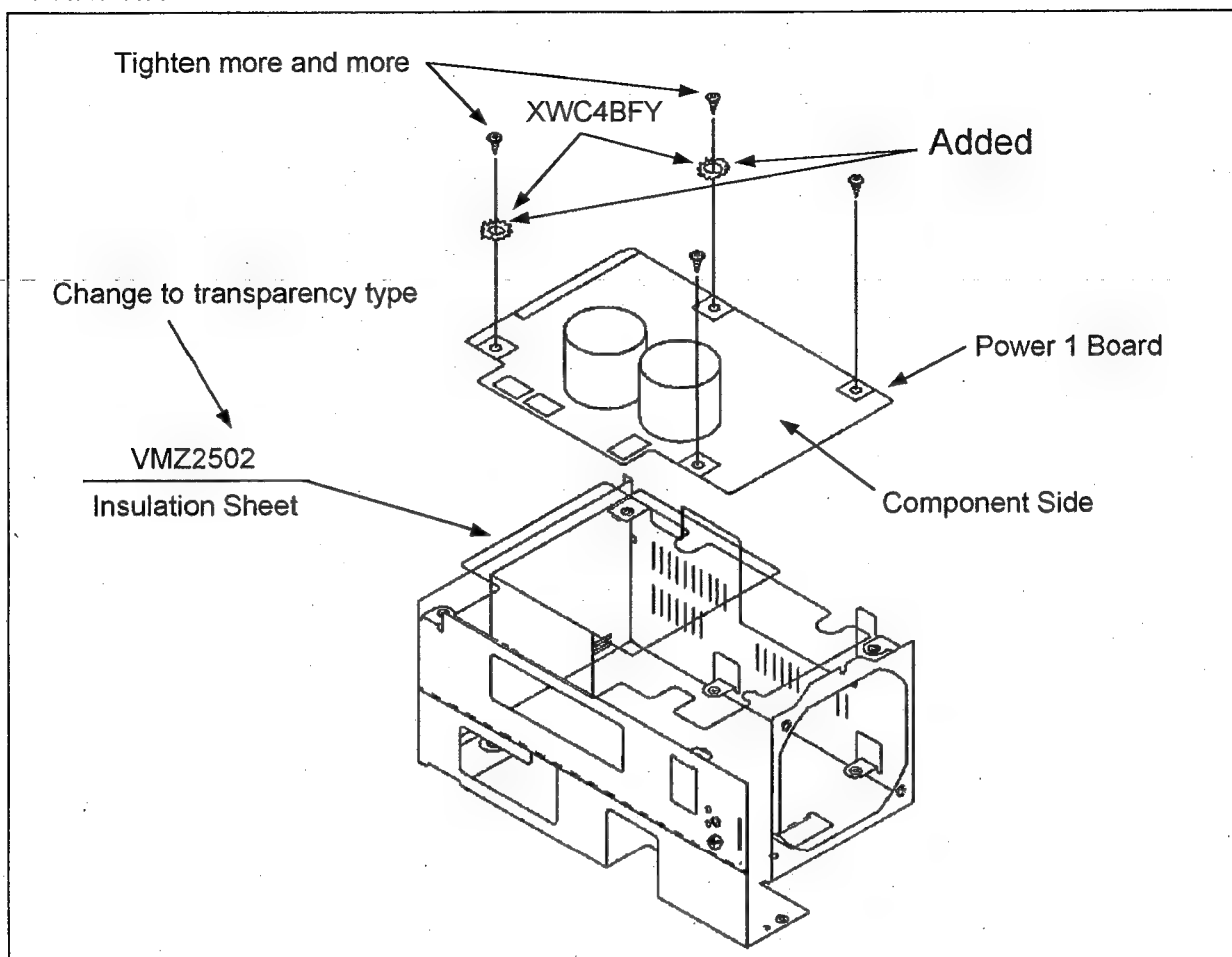


Fig. 6

Power Unit

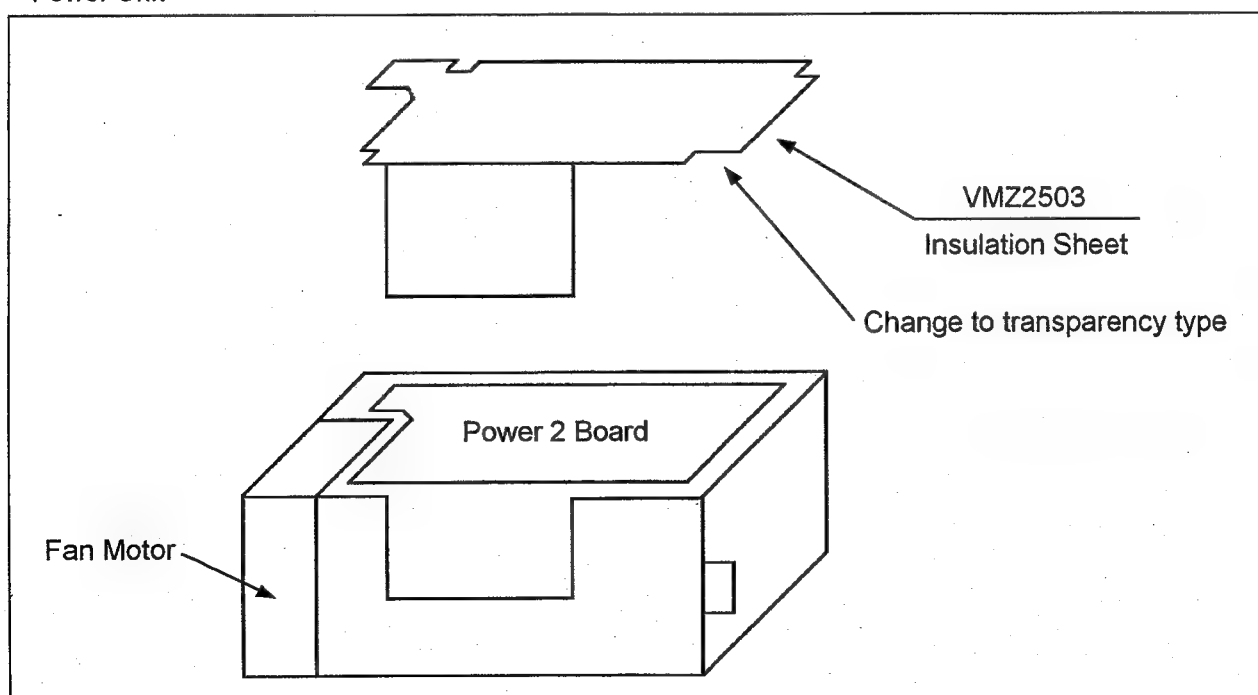


Fig. 7

Power Unit

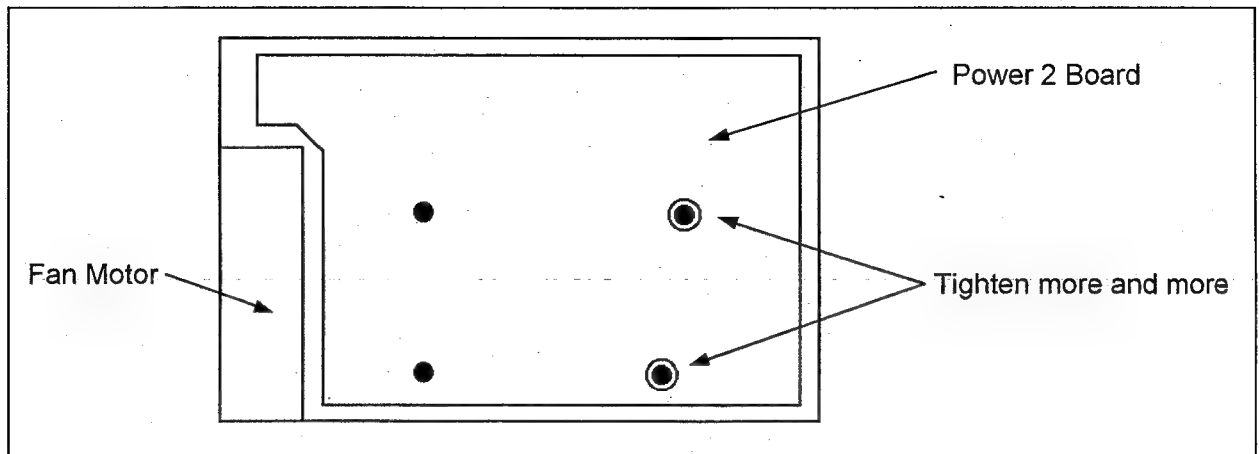


Fig. 8

Power Unit

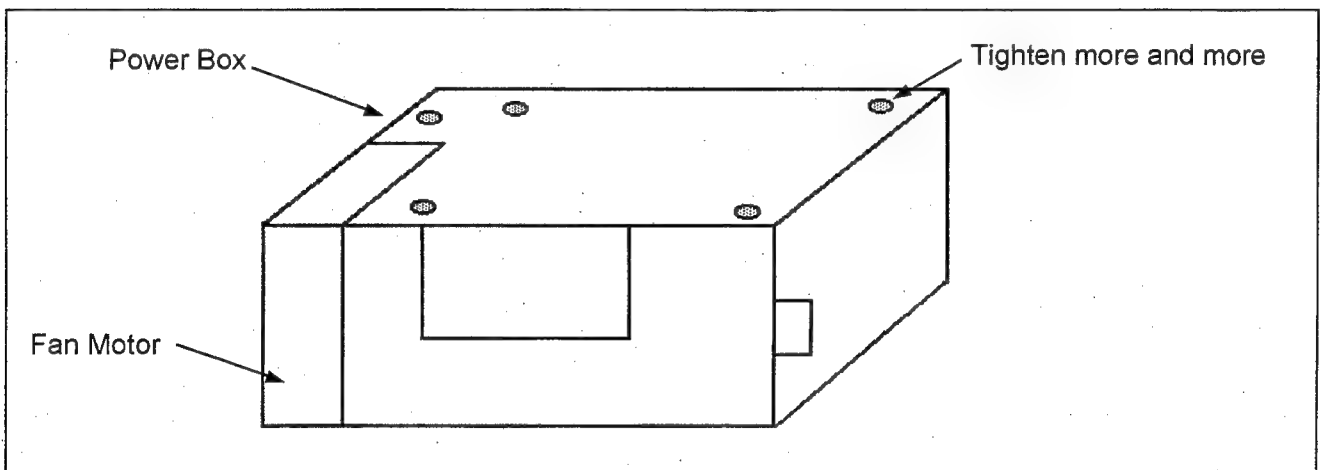


Fig. 9

Power 2 P.C. Board (VEP81075A)

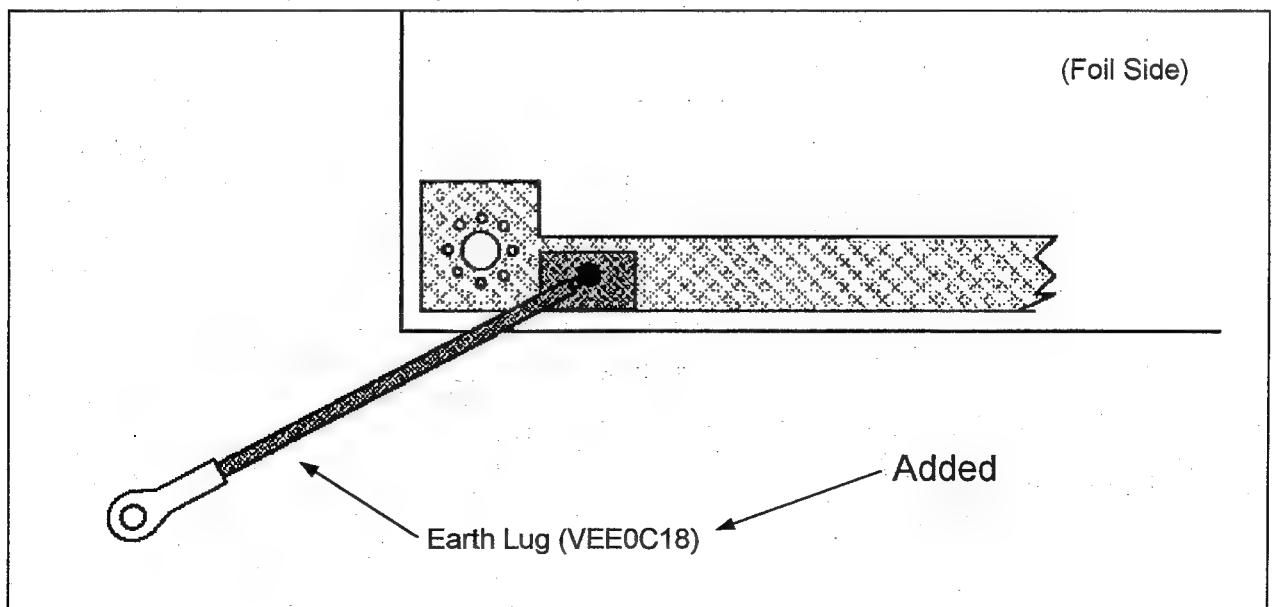


Fig. 10

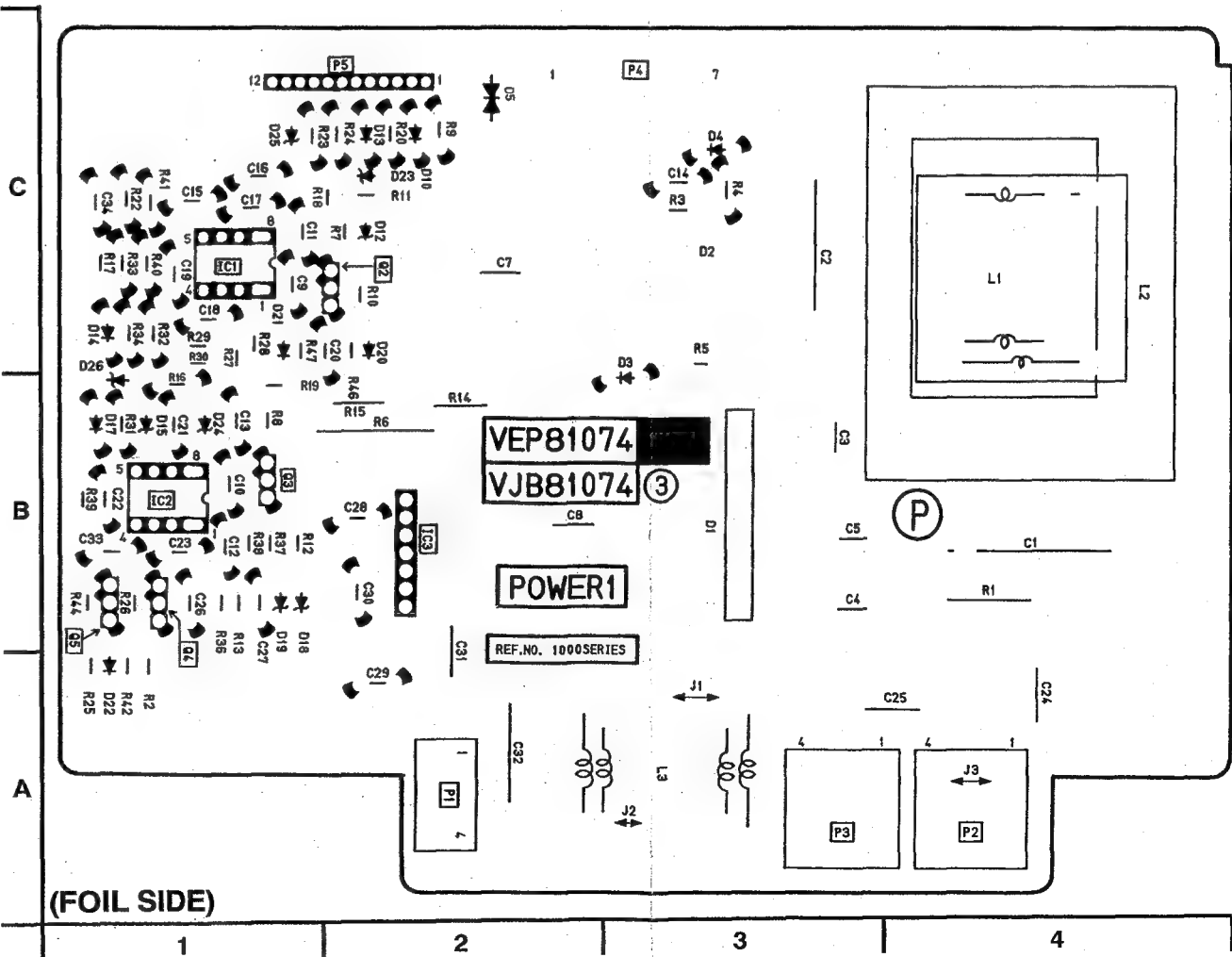
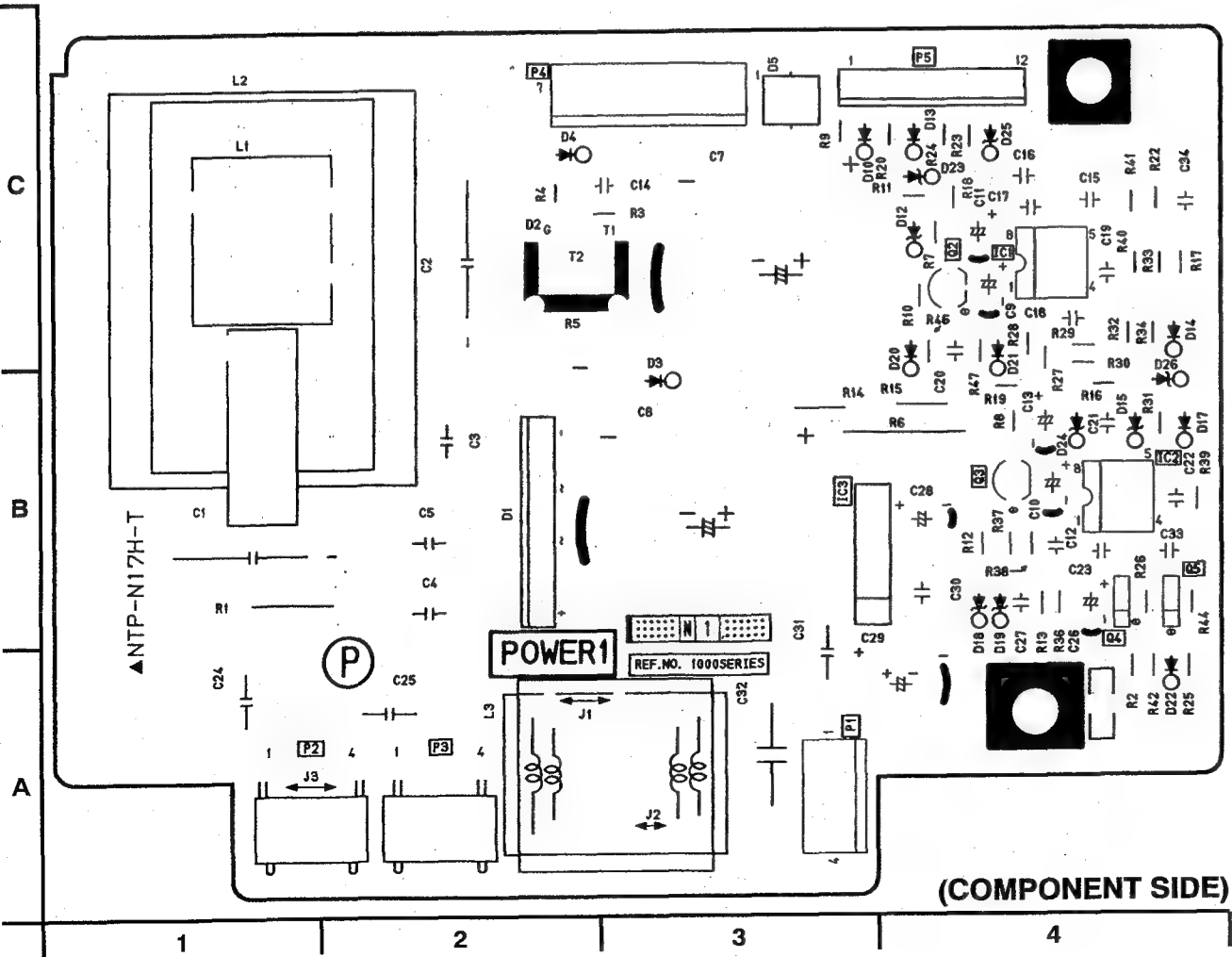
POWER 1 P.C.BOARD (VEP81074A) – FOR NTSC  
(VEP81074B) – FOR PAL

POWER 1 (COMPONENT SIDE)			
Transistors		Connector	
Q1002	C-4	P1001	A-3
Q1003	B-4	P1002	A-1
Q1004	B-4	P1003	A-2
Q1005	B-4	P1004	C-2
Integrated Circuit		P1005	C-3
IC1001	C-4		
IC1002	B-4		
IC1003	B-3		

ADDRESS INFORMATION

POWER 1 (FOIL SIDE)			
Transistors		Connector	
Q1002	C-2	P1001	A-2
Q1003	B-1	P1002	A-4
Q1004	B-1	P1003	A-3
Q1005	B-1	P1004	C-3
Integrated Circuit		P1005	C-1
IC1001	C-1		
IC1002	B-1		
IC1003	B-2		

ADDRESS INFORMATION



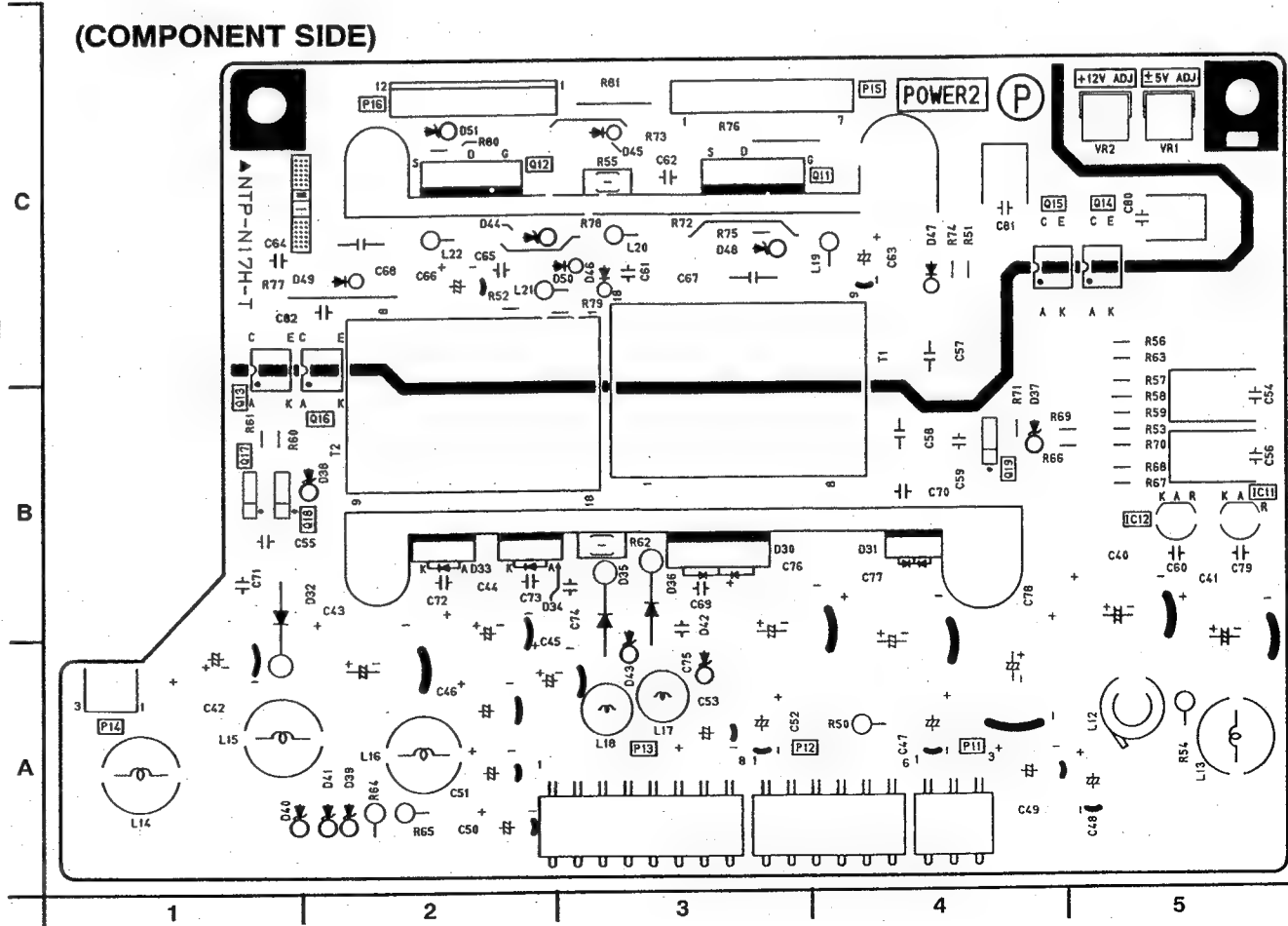
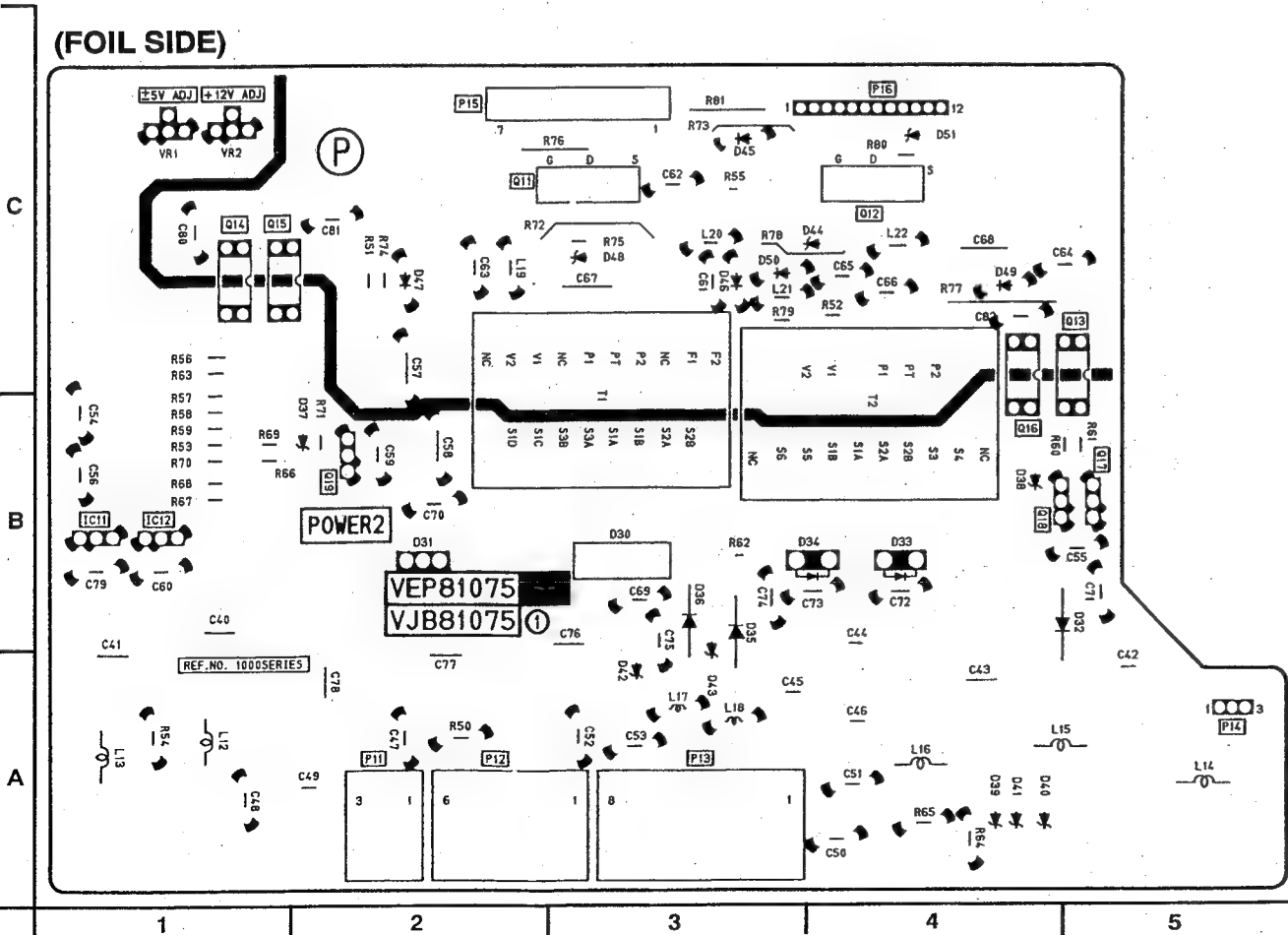
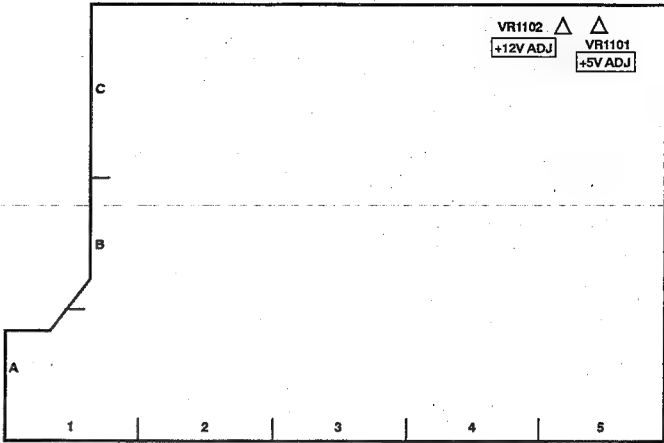
**POWER 2 P.C.BOARD (VEP81075A) – FOR NTSC  
(VEP81075B) – FOR PAL**

POWER 2 (FOIL SIDE)			
Transistors		Adjustment	
Q1011	C-2	VR1001	C-1
Q1012	C-4	VR1002	C-1
Q1013	C-5	Connector	
Q1014	C-1		
Q1015	C-1	P1011	A-2
Q1016	C-4	P1012	A-2
Q1017	B-5	P1013	A-3
Q1018	B-5	P1014	A-5
Q1019	B-2	P1015	C-2
		P1016	C-4
Integrated Circuit			
IC1011	B-1		
IC1012	B-1		

ADDRESS INFORMATION

POWER 2 (COMPONENT SIDE)			
Transistors		Adjustment	
Q1011	C-3	VR1001	C-5
Q1012	C-2	VR1002	C-5
Q1013	C-1	Connector	
Q1014	C-5		
Q1015	C-4	P1011	A-4
Q1016	C-2	P1012	A-3
Q1017	B-1	P1013	A-3
Q1018	B-1	P1014	A-1
Q1019	B-4	P1015	C-3
		P1016	C-2
Integrated Circuit			
IC1011	B-5		
IC1012	B-5		

ADDRESS INFORMATION



V17726  
V17727  
V18115  
V18116

Order No. VSD9710SA709

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Picture Disturbance during INSERT Edit Mode

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/ENV17726 + V17727	109	VSD9606M502A/B	I7TRB0001
AJ-D650E V18115 + V18116	80	VSD9612MJ01A/B	I7TRA0001
AJ-D640E	80	VSD9612MJ01A/B	I7TRA0001

Board : EQ (H3:VEP85048A)

Symptom : Picture may be disturbed during INSERT Edit mode.

Cause : Output of the 3 terminals regulator IC which supplies the power to the Equalizer IC may be fluctuated during INSERT Edit mode. And then, playback signal may be distorted. It results in PLL mis-detection.

Remedy : To prevent the picture disturbance, the following modification is performed.

- 1). Float the leg of pin #51 of IC5207 and adhere the insulation tape under it on the component side as shown in figures 1 and 2.
- 2). Install a new capacitor (0.1 $\mu$ F) between C5221 and pin #51 of IC5207 which floated on the component side as shown in figures 1 and 2.
- 3). Connect a jumper wire between pin #51 of IC5207 and pin #20 of IC5210 on the component side as shown in figures 1 and 2.

\* Note \*

When the Cylinder Unit is replaced, this modification is performed.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	---	VCK0134K104	C. CAPACITOR 0.1U	0→1	

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### H3 EQ (3/9) Schematic Diagram

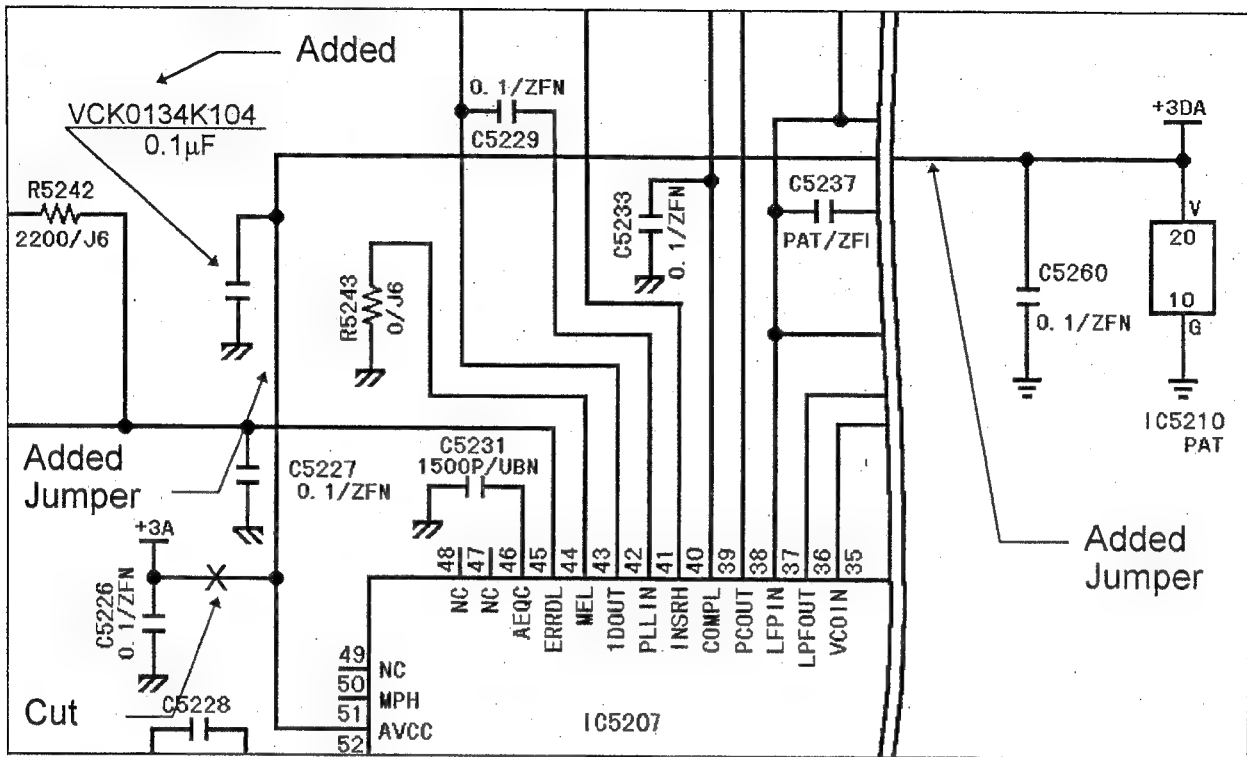


Fig 1 Page 2-167 (AJ-D750) / Page 2-129 (AJ-D650/D640)

### H3 EQ P.C. Board (VEP85048A)

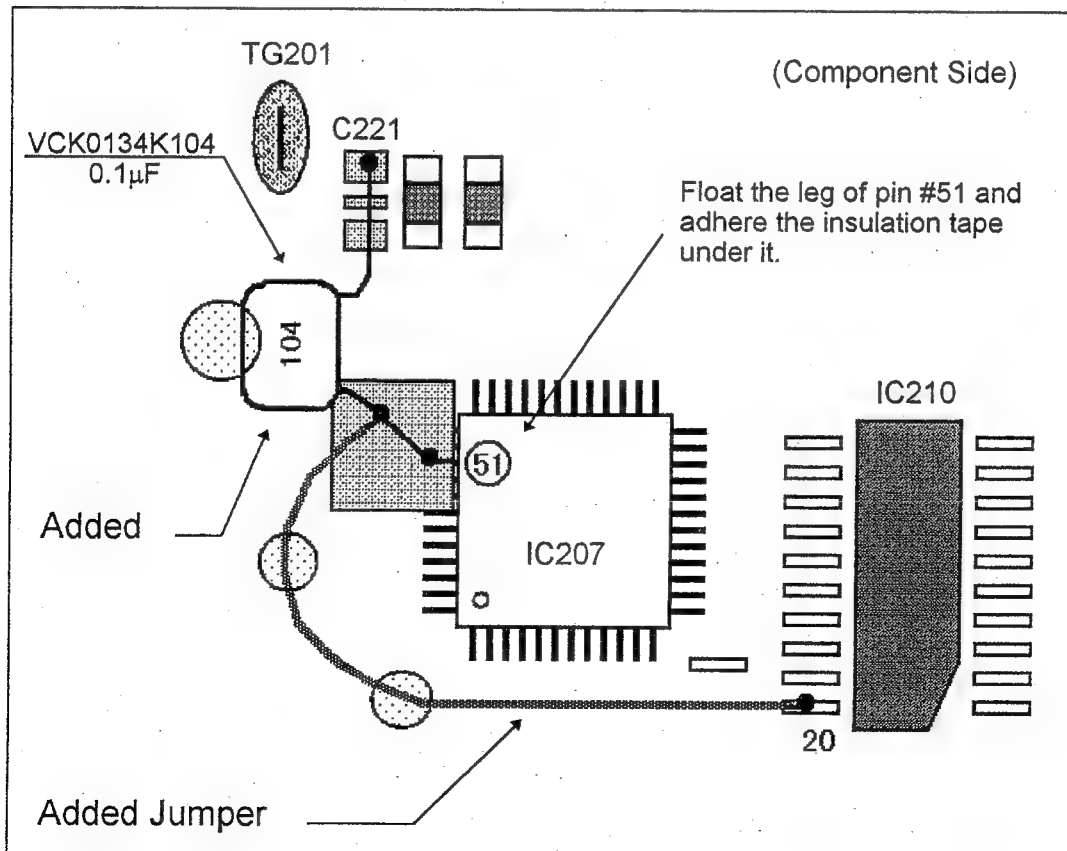


Fig 2 Page 3-12 (AJ-D750) / Page 3-10 (AJ-D650/D640)

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Addition of Mode SW Cover**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	110	VSD9606M502A	I7TRB0001
AJ-D650E	81	VSD9612MJ01A	I7TRA0001
AJ-D640E	81	VSD9612MJ01A	I7TRA0001
AJ-LT75E	27	VSD9707M602A	I7TNA0001
AJ-D230E	21	VSD9708M605	I7TDA0001
AJ-D700E/EN	65	VSD9606M501A	I7TKA0001
AJ-D800E/EN	14	VSD9708M606A	I7TKA0001
AJ-D200HE	17	VSD9708M604	I7TKA0001

### Mechanical Chassis Assembly (2)

Symptom : Mode SW may be malfunctioned.

Cause : Sharpened powder of the Solenoid Base may fall on the Mode SW. It results in Mode SW malfunction.

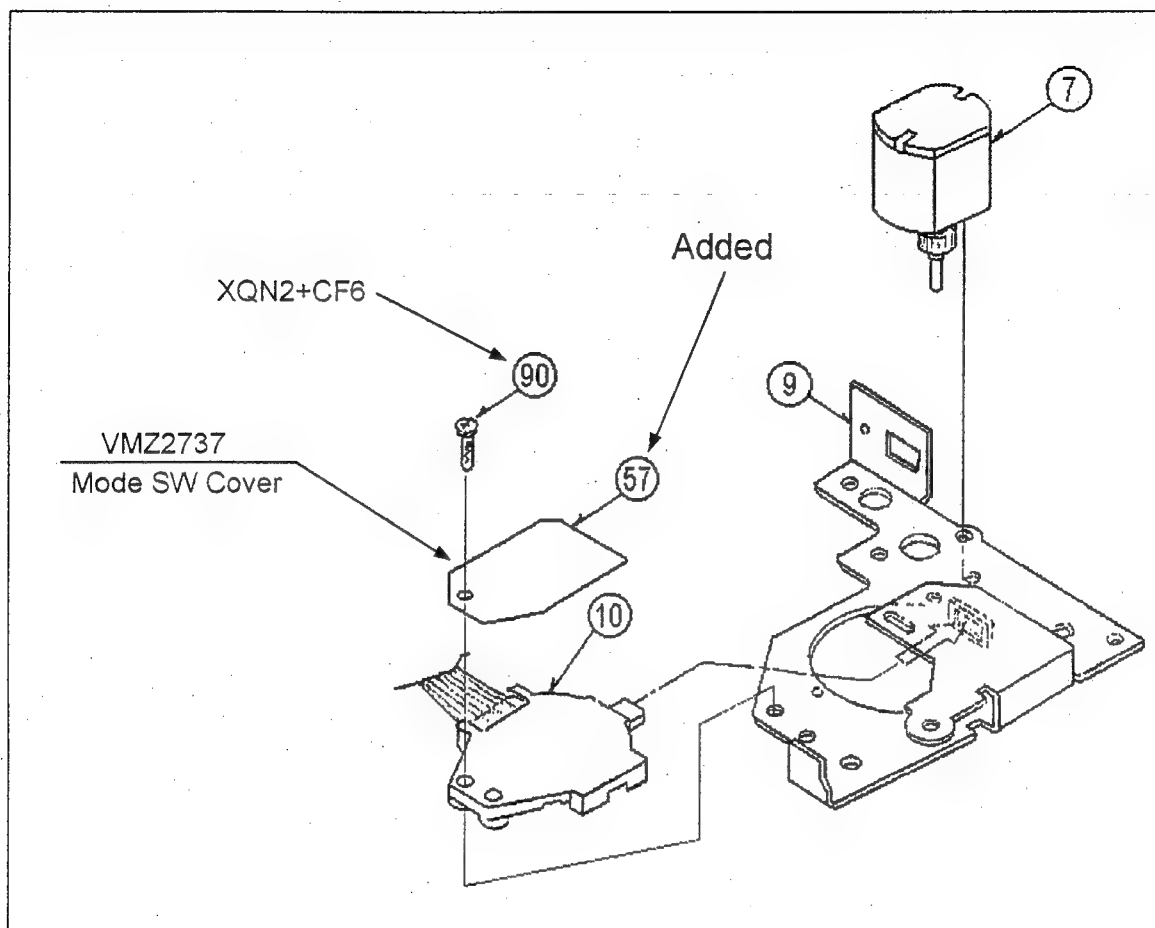
Remedy : To prevent it, the Mode SW Cover (VMZ2737) is added to the Mode SW unit as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
57	---	VMZ2737	MODE SW COVER	0→1	
90	---	XQN2+CF6	SCREW	0→1	Not listed in parts list

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Software Version Up Grade**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	83	VSD9612MJ01A/B	I7TRA0001
AJ-D640E	83	VSD9612MJ01A/B	I7TRA0001

Board : System Control (F2:VEP86146E) - AJ-D650  
System Control (F2:VEP86146F) - AJ-D640

The following software has been up-dated to improve the functioning of the VTR.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC2	VSI2397B	VSI2397C	F2 SYSTEM PROM Ver. P1.03	1	for AJ-D650
IC2	VSI2400B	VSI2400C	F2 SYSTEM PROM Ver. P1.03	1	for AJ-D640

### < TEST MENU >

SERVO	IC235	:	F1-P1.08	1416	*	SYSTEM IC2	:	F2-P1.03	E83A	AJ-D650
AV	IC702	:	F2-P1.03	1B42	*	SYSTEM IC2	:	F2-P1.03	5C08	AJ-D640
FRONT	IC2	:	FP-1.01	A8BB	I/F	IC503	:	F2-P1.04	A40F	AJ-D650
					I/F	IC503	:	F2-P1.04	FBF4	AJ-D640

### \* Note \*

The hardware modification must be required since the following software version. (Servo/P1.08, System Control/P1.02, Interface/P1.04, AV/P1.03, Front/1.01). When the software is up-graded this time, please confirm the P.C. Board version. If the P.C. Board is not modified, the following modification must be performed.

[ H3 EQ Board ]

Please refer to the Technical Bulletin No. VSD9705SC620.

**Symptom :** AUTO OFF "S REEL TORQUE ERROR" may be occurred when the L cassette tape which is wound to tape beginning is inserted.

**Cause :** Supply Reel torque over may occur when the tape rushes into the tape beginning by Short FF function due to the mis-detection of tape end/beginning.

**Remedy :** System Control software version is up-graded to P1.06. At the same time, the following software version must be up-graded to the following version. Please refer to the Technical Bulletin No. VSD9705SC620.

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Servo	VSI2280J	P1.08	1416	
I/F	VSI2398D	P1.04	A40F	for AJ-D650E
	VSI2401D	P1.04	FBF4	for AJ-D640E
AV	VSI2399C	P1.03	1B42	
FRONT	VSI2386A	1.01	A8BB	

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Video Output Line Shift

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	84	VSD9612MJ01A/B	J7TRA0001
AJ-D640E	84	VSD9612MJ01A/B	J7TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : When the INPUT SELECT is set to "DIGITAL" using AJ-D650/D640 as a Player without connecting the SDI, video output is shifted 3 lines.

Cause : Switching signal of EE/VV is not functioned correctly.

Remedy : To prevent it, PLD IC700 is changed from VSI2500 to VSI2500A.

**\* Note \***

To prevent it temporarily, INPUT SELECT is changed from "DIGITAL" to "ANALOG".

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC700	VSI2500	VJS2500A	IC	1	CHECK SUM:002460AB

Ref. No.	Schematic Diagram		P.C.Board	
	Page	Area No.	Page	Area No.
IC700	2-53	C~E-4~6 (9/16)	3-5	A-4 (C)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Countermeasure for Picture Freeze**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	85	VSD9612MJ01A/B	---
AJ-D640E	85	VSD9612MJ01A/B	---

Board : REC PB (F5:VEP83353B)

**Symptom** : Picture may be frozen when the random noise signal is input.

**Cause** : Communication error between AV and SBC may occur due to the reference pulse disturbance. It results in picture freeze.

**Remedy** : To prevent it, the following modification is performed.

- 1). Cut the foil between pin #11 of IC104 and through hole (A) on the foil side as shown in figures 1 and 2.
- 2). Connect a jumper wire between pin #11 of IC104 on the foil side and through the hole and pin #4 of IC601 on the component side as shown in figures 1 and 2.

**\* Note \***

This modification is only effective to the following P.C. Board.  
VJB83353, -1 / VEP83353B, B-1

F5 REC PB (1/23) Schematic Diagram

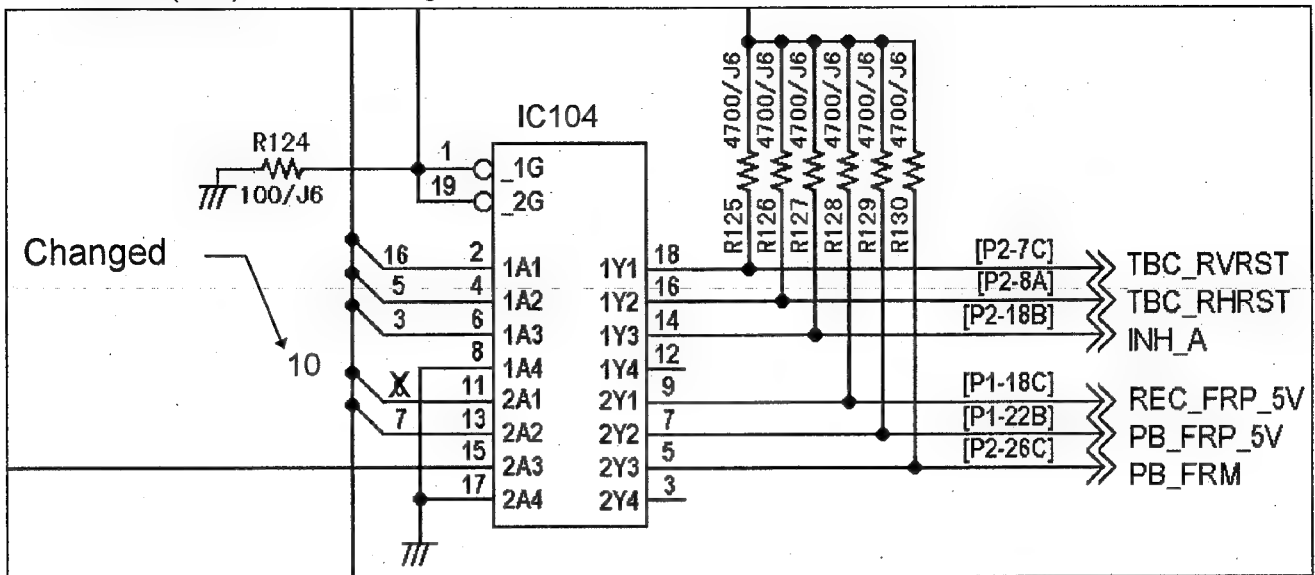


Fig. 1 Page 2-61 (B-8)

F5 REC PB P.C. Board (VEP83353B)

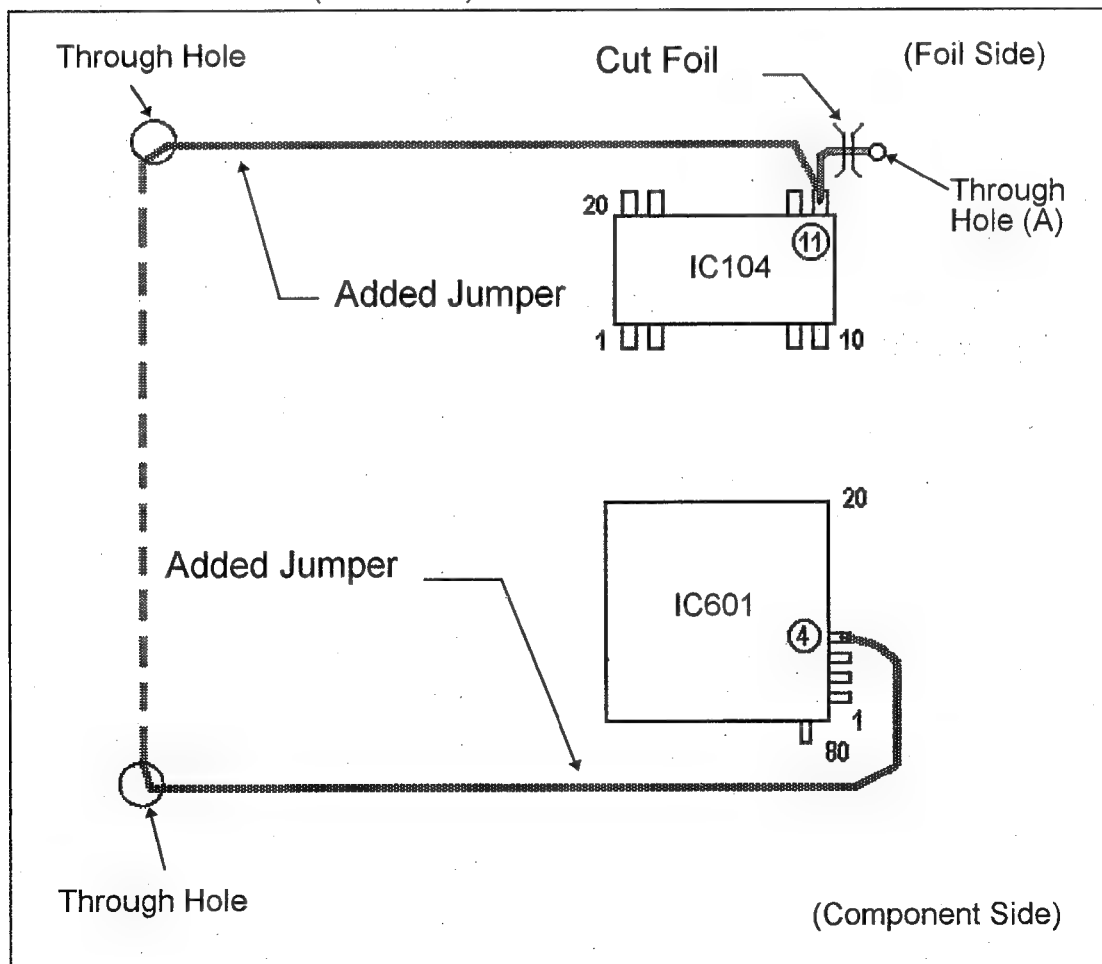


Fig. 2 Page 3-6

18115 ✓  
18116

Order No. VSD9711SC632

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Change of IC**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	86	VSD9612MJ01A/B	J7TRA0001
AJ-D640E	86	VSD9612MJ01A/B	J7TRA0001

Board : V OUT (F4:VEP83352B)

### Reason for Change

- ☐ The following part(s) has (have) been changed for serviceability improvement.
- ☒ The following part(s) has (have) been changed for productivity improvement.
- ☒ The following part(s) has (have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC1053	SN74AS74NS	SN74AS74ANS	IC	1	
IC1057	SN74AS74NS	SN74AS74ANS	IC	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC1053	2-58	B~C-6 (14/16)	3-5	A-3 (C)
IC1057	2-58	C-7~8 (14/16)	3-5	A-2 (C)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Software Version Up Grades

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	87	VSD9612MJ01A/B	J7TRA0001
AJ-D640E	87	VSD9612MJ01A/B	J7TRA0001

Board : Servo (F1:VEP82105B)  
 System Control (F2:VEP86146E) - AJ-D650  
 System Control (F2:VEP86146F) - AJ-D640  
 Front CPU (VEP86256A)

The following software have been up-dated to improve the functioning of the VTR.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC235	VSI2280J	VSI2280K	F1 SERVO PROM Ver. P1.09	1	
IC2	VSI2397C	VSI2397D	F2 SYSTEM PROM Ver. P1.04	1	for AJ-D650
IC2	VSI2400C	VSI2400D	F2 SYSTEM PROM Ver. P1.04	1	for AJ-D640
IC503	VSI2398D	VSI2398E	F2 I/F PROM Ver. P1.05	1	for AJ-D650
IC503	VSI2401D	VSI2401E	F2 I/F PROM Ver. P1.05	1	for AJ-D640
IC702	VSI2399C	VSI2399D	F2 AV PROM Ver. P1.04	1	
IC2	VSI2386A	VSI2386B	FRONT PROM Ver. 1.02	1	

#### < TEST MENU >

* SERVO IC235 : F1-P1.09	61BE	* SYSTEM IC2 : F2-P1.04	951C	AJ-D650
* AV IC702 : F2-P1.04	F3E5	* SYSTEM IC2 : F2-P1.04	OBB0	AJ-D640
* FRONT IC2 : FP-1.02	6AB2	* I/F IC503 : F2-P1.05	BFBC	AJ-D650
		* I/F IC503 : F2-P1.05	827D	AJ-D640

#### \* Note \*

The hardware modification must be required since the following software version. (Servo/P1.08, System Control/P1.02, Interface/P1.04, AV/P1.03, Front/1.01). When the software is up-graded this time, please confirm the P.C. Board version. If the P.C.Board is not modified, the following modification must be performed.

[ H3 EQ Board ]

Please refer to the Technical Bulletin No. VSD9705SC620.

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# < Additional Function >

## < System Control / AV >

1. System H Range select function is introduced on the System SETUP Menu as follows.

When the power is turned OFF connecting with Encoder Remote, System H setting value may be shifted. To prevent it, the setting value on the Encoder Remote is always backed up.  
This function is added on the System SETUP Menu as follows.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
20	SYS H RANGE	0000 0001	FULL FINE	This adjusts the adjustable range for SYSTEM H during when the Encoder Remote is connected. 0 : $\pm 8 \mu\text{sec}$ ( $\pm 30$ steps) 1 : $-1.9$ to $+2.7 \mu\text{sec}$ ( $-7$ to $+10$ steps) < Note > If setting operation is performed, the setting value does not return to factory (default) setting.

### < Note >

The System Control and AV PROM must be up-graded at the same time as follows.  
System Control : more than P1.04, AV : more than P1.04

## < System Control / Interface / Front >

1. Channel condition is displayed on the Superimpose.
2. INT BB is displayed.
3. Warning Message is displayed on the Superimpose.

## < System Control / Interface >

1. VAR/JOG speed select function is introduced on the SETUP Menu connecting with Remote (9P, RS-232C) as follows.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
314	JOG RANGE	0000 0001	$-0.43 \sim 1$ $-4 \sim +4$	This sets the range of the JOG speed during Remote operation. 0 : Plays at $-0.43$ to $+1$ speed range (In DV or DVCAM format, $-0.5$ to $+1$ speed range) 1 : Plays at $\pm 4.1$ speed range (In DV or DVCAM format, $\pm 3.1$ speed range) < Notes > 1. Phase synchronization from the editing controller is no longer possible once this item has been set to "0". 2. During the dial-up operation at the front, the unit normally plays at the $-0.43$ to $+1$ speed range regardless of the setting in the SETUP Menu. (In DV or DVCAM format, the unit plays at the $-0.5$ to $+1$ speed range)



The Playback speed range is as follows.

SETUP Menu Setting		Playback Speed			
		Front Dial		Remote (9P, RS-232C)	
		JOG	VAR	JOG	VAR
300 : VAR RANGE	0 : -.43 ~ 1		-0.43 ~ +1 (-0.5 ~ +1)		-0.43 ~ +1 (-0.5 ~ +1)
	1 : -4 ~ +4		-4.1 ~ +4.1 (-0.5 ~ +1)		-4.1 ~ +4.1 (-3.1 ~ +3.1)
314 : JOG RANGE	0 : -.43 ~ 1	-0.43 ~ +1 (-0.5 ~ +1)		-0.43 ~ +1 (-0.5 ~ +1)	
	1 : -4 ~ +4			-4.1 ~ +4.1 (-3.1 ~ +3.1)	

( ) DV/DVCAM Playback speed

### < Improvement of Performance >

#### < Servo >

1. Time code may be frozen during RF AUTO Adjustment mode. It is improved.
2. When the SHTL mode is reversed, its response is too late. It is improved.
3. When the mode is changed from STOP to PLAY, Quick Start is not performed. It is improved.
4. Capstan may overshoot during JOG mode. It is improved.
5. Capstan Motor may not rotate when the mode is changed from X0.5 to FF and then X0.5. It is improved.
6. Tape damage may occur when the cassette tape lid is not opened and the unit goes to Loading mode. It is improved. AUTO OFF "FRONT\_LOAD\_ERROR" will be displayed.
7. Reel Motor may be rushed when the unit goes to Loading mode by Emergency with no cassette tape. It is improved.
8. When the mode is changed from STOP to REW and then STOP at the tape end, the tape is over-tension. It is improved. (M and L cassette)

#### < AV >

1. Audio 4 CH output can be available on the PLAY mode only during DV Playback mode. All mode can be available for Audio 4 CH output.
2. Audio may be muted when the Error Rate is high. It is not muted.
3. TC OUT (LTC/VITC) is advanced 1 frame to the Video output during EE mode. It is improved.
4. Video output may be shifted 1 line when the mode is changed from Play to Edit during Edit mode. It is improved.
5. LTC read error may occur during DV Playback mode with BVW-75. It is improved.

#### < Interface >

1. Communication error between Interface and Front may occur during DV/DVCAM Playback mode. It is improved.
2. Preview mode is not accepted with AG-A350 during IN GOTO mode. It is improved.
3. When the PREVIEW/AUTO EDIT is performed which Player side setting of [301:IN/OUT DEL] on the User SETUP Menu is AUTO with deck to deck Editing mode, editing is finished after passing the IN point instead of OPEN END. It is improved.
4. When the RESET button is pressed during PLAY mode with CTL or INS mode, key function is not efficient. It is improved.
5. When the RESET button is pressed on STOP mode during CTL mode on the Recorder side with deck to deck editing mode, the unit does not go to deck to deck editing mode. It is improved.

#### < Servo / System Control >

1. When the cassette tape is inserted and the unit goes to Loading mode right after it is ejected, tape position may shift. It is improved.

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Reduction of Noise on the Multi Burst Output Signal

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	88	VSD9612MJ01A	K7TRA0001
AJ-D640E	88	VSD9612MJ01A	K7TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : Black vertical noise or dot band noise may appear on the 4MHz ~ 5MHz area of the Multi Burst output signal.

Cause : Timing between clock and data which are supplied to D/A Converter IC is out of specification. So, latch timing failure may occur.

Remedy : To reduce the noise, the following modification is performed.

- 1). Cut the foil of (A) portion on the foil side as shown in figures 1 and 2.
- 2). Connect a jumper wire between pin #15 of IC303 and pin #6 of IC1057 on the foil side as shown in figures 1 and 2.
- 3). After this modification, 7-15. Video Phase Adjustment (VR1050) is required.

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# F4 V OUT (14/16) Schematic Diagram

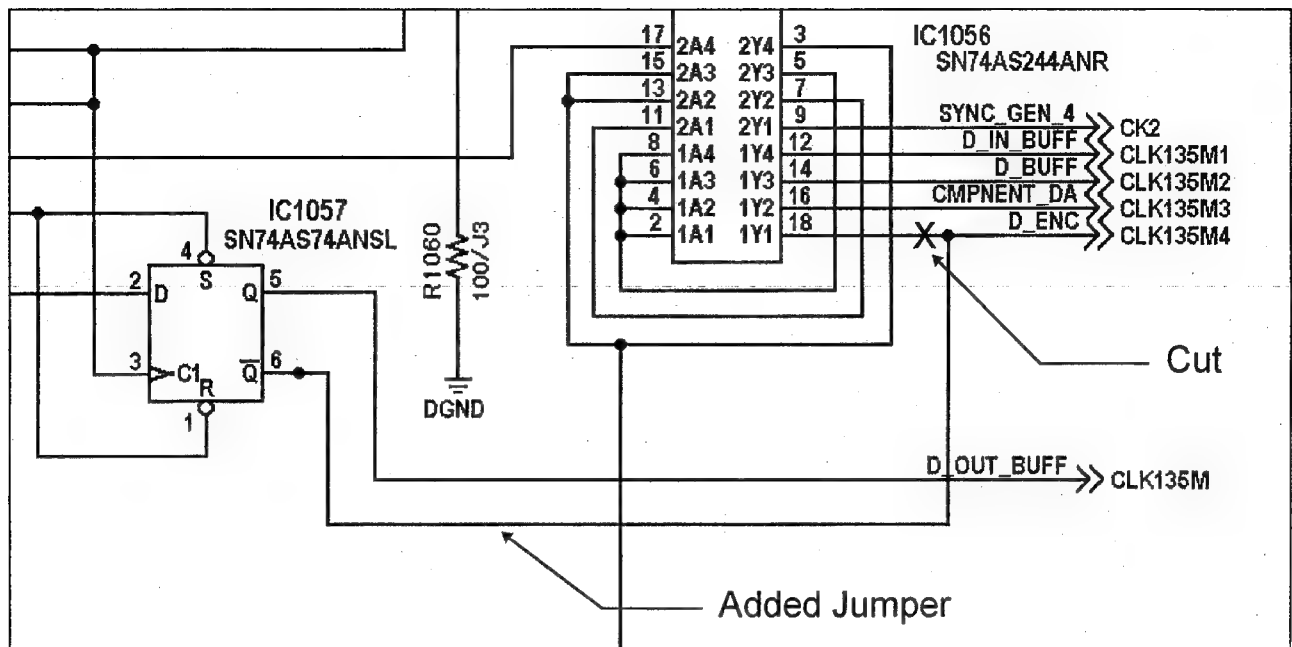


Fig. 1. Page 2-58 (C-7~9)

## F4 V OUT P.C. Board (VEP83352B)

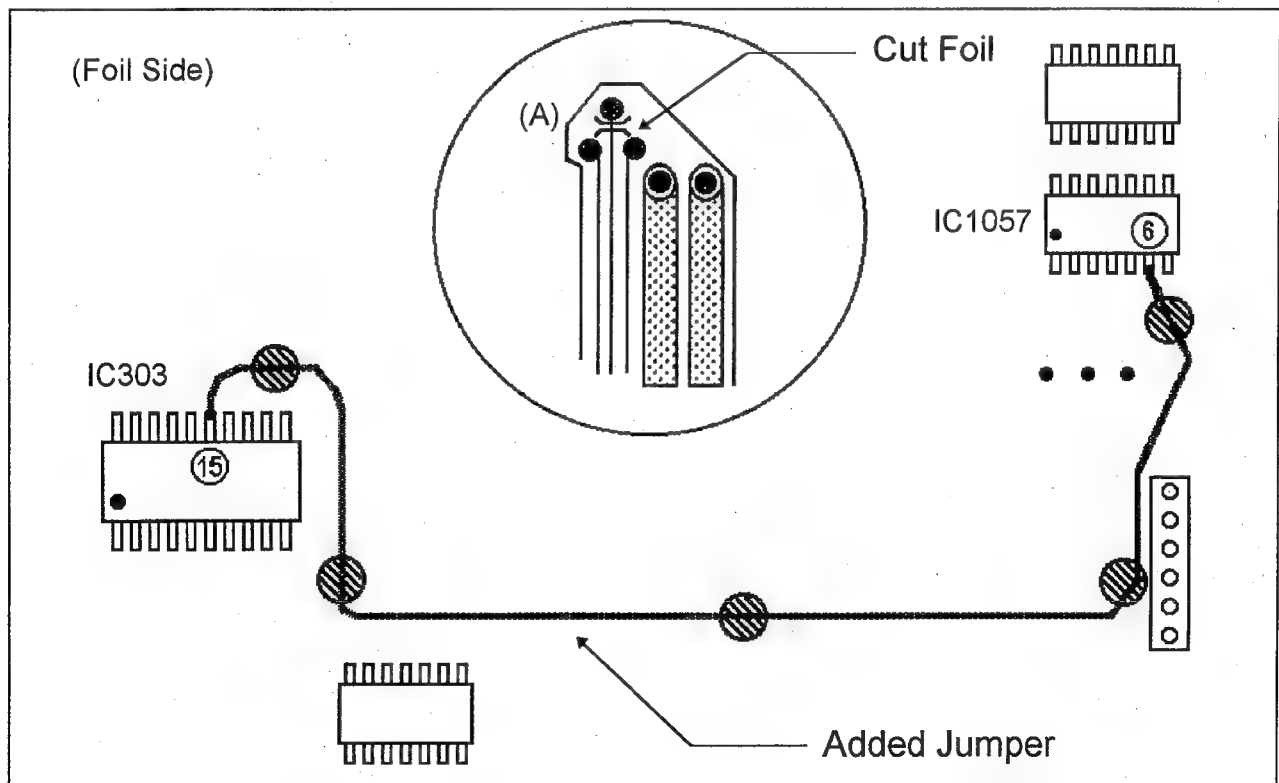


Fig. 2. Page 3-5

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Reduction of Audio Noise during CUE Audio Playback Mode**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	89	VSD9612MJ01A/B	K7TRA0001
AJ-D640E	89	VSD9612MJ01A/B	K7TRA0001

Board : Mother (VEP80A11A)

Symptom : Audio noise may appear during CUE Audio Playback mode.

Cause : Noise may jump into the CUE Playback circuit from the CUE Head.

Remedy : To reduce the audio noise, the following modification is performed.

\* P.C. Board version is VEP80A11A/VJB80A11 without suffix

- 1). Shield wire is added between 3 lands (near pin #10 of P016) to 3 lands (near pins #1, #2 and #3 of P036) on the foil side as shown in figure 1.

\* P.C. Board version is VEP80A11A-1/VJB80A11-1

- 1). Shield wire is added between 3 lands (near pin #20 of P016) to 3 lands (near pins #1, #2 and #3 of P036) on the foil side as shown in figure 2.

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Mother Board (VEP80A11A/VJB80A11)

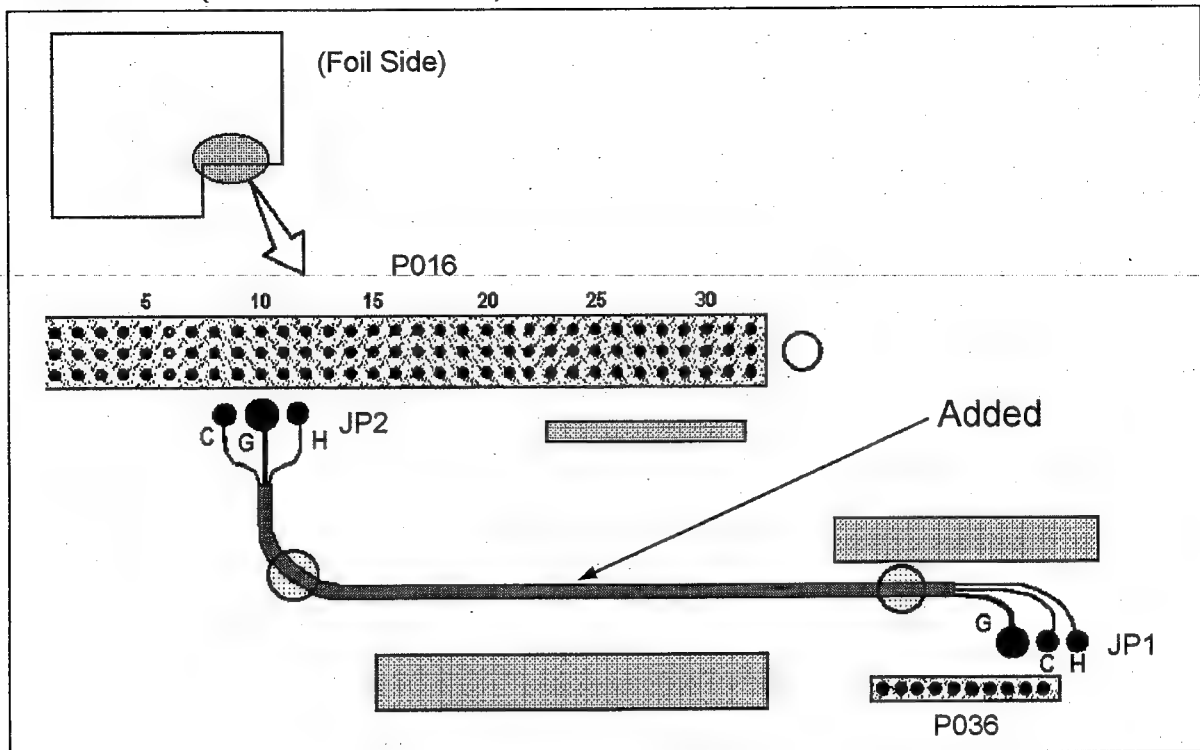


Fig. 1

Mother Board (VEP80A11A-1/VJB80A11-1)

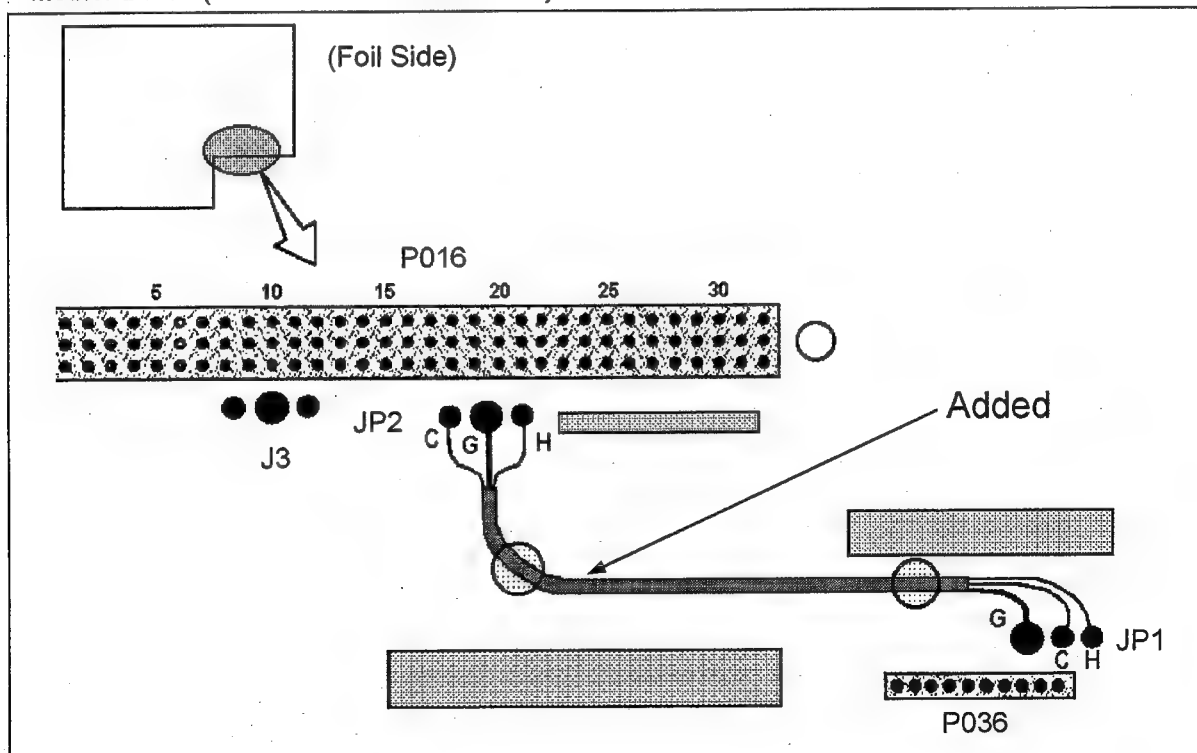


Fig. 2

## Technical Bulletin DVCPRO : AJ-D750E / AJ-D640E / AJ-D650E

AJ-D750E	AJ-D640E	AJ-D650E	Order No.	Subject	Effective from
Technical Guide			VSD9707D901	DVCPRO	
Service Manual			VSD9703MG02A	AJ-D750P/E/EN Ver.1.0 Vol1 ; AJ-YA750P	
Service Manual			VSD9606M502B	AJ-D750E/EN Vol.2 ; AJ-YA750P	
	Service Manual	Service Manual	VSD9612MJ01A	AJ-D640E, AJ-D650E Vol1 ✓	
	Service Manual	Service Manual	VSD9612MJ01B	AJ-D640E, AJ-D650E Vol 2 ✓	
	Service Manual	Service Manual	VSD9612MG01	AJ-YA655P Digital Audio Interface Board	
1			VSD9608SA601	Software Version Up Grade	F6TRA0001
2			VSD9608SA602	Improvement of S/N Ratio at Composite In/Out	F6TRA0001
3			VSD9608SA603	Countermeasure for Static Discharge	G6TRA0001
4			VSD9608SA604	Software Version Up Grade	F6TRA0001
5			VSD9608SA605	Correction of Parts Number List	F6TRA0001
6			VSD9609SA606	Software Version Up Grades	G6TRA0001
7			VSD9609SA607	Reduction of Serial Output Jitter Noise	G6TRA0001
8			VSD9609SA608	Software Version Up Grade	H6TRA0001
9			VSD9609SA609	Improvement of Colour Framing Adjustment	H6TRA0001
10			VSD9609SA610	Improvement of Overshoot at Burst Envelope	I6TRA0001
11			VSD9609SA611	Improvement of Burst Distortion	I6TRA0001
12			VSD9609SA612	Improvement of Color Bar Vector	I6TRA0001
13			VSD9610SA613	Improvement of Pr and Pb Frequency Response	G6TRA0001
14			VSD9610SA614	Reduction of Vertical and Horizontal Sags at Video Out	I6TRA0001
15			VSD9610SA615	Software Version Up Grade	I6TRA0001
16			VSD9610SA616	Improvement of Picture under High Temperature	J6TRA0001
17			VSD9610SA617	Software Version Up Grades	J6TRA0001
18			VSD9610SA618	Software Version Up Grades	J6TRA0001
19			VSD9610SA619	Improvement of Tape End/Beginning Detection	J6TRA0001

## Technical Bulletin DVCPRO : AJ-D750E / AJ-D640E / AJ-D650E

AJ-D750E	AJ-D640E	AJ-D650E	Order No.	Subject	Effective from
20			VSD9611SA620	Improvement of Christal Oscillator Circuit	K6TRB0001
21			VSD9611SA621	Software Version Up Grade	K6TRB0001
22			VSD9611SA622	Introduction of New MECHA I/F Board	J6TRB0163
23	1	1	VSD9611SA623	Reduction of Noise from Cylinder Circuit	J6TRB0163
24			VSD9612SA624	Change of IC	L6TRB0001
25			VSD9612SA625	Improvement of CUE Audio Monitor Output Level	L6TRB0001
26			VSD9612SA626	Change of IC	L6TRB0001
27	2	2	VSD9701SA627	Improvement of PLL Unlock under Low Temperature (-10°C)	A7TRB0001
28			VSD9701SA628	Change of ROM Type	A7TRB0001
29			VSD9701SA629	Change of IC (SRAM)	A7TRB0001
30	3	3	VSD9701SA630	Countermeasure for Electric Power Capability of 3 Terminals Regulator IC under High Temperature (60°C)	A7TRB0001
31			VSD9701SA631	Software Version Up Grades	A7TRB0001
32			VSD9702SA632	Improvement of System H Phase Shift	B7TRB0001
32A			VSD9702SA632-1	Improvement of System H Phase Shift	B7TRB0001
33	4	4	VSD9702SA633	Improvement of Data Communication error between AV Micon and SBC Micon under High Temperature (60°C)	B7TRA0001
34	5	5	VSD9702SA634	Common Use of ICs (CPU)	B7TRA0001
35	6	6	VSD9702SA635	Improvement of Clamp Pulse of Color Signal	B7TRB0001
36	7	7	VSD9702SA636	Improvement of LTC Output Waveform	B7TRB0001
37			VSD9704SA637	Reduction of Noise from Headphone	F6TRA0001
39			VSD9704SA639	Improvement of L Cassette Eject	F6TRA0001
42			VSD9704SA642	Improvement of L Cassette Eject	G6TRA0001
43	8	8	VSD9704SA643	Improvement of Tension Sensor Unit	F/K6TRA0001
	15	15	VSD9704SC601	Correction in Parts Number List	J6TRA0001
44			VSD9704SA644	Countermeasure for Tape Slack	F6TRA0001
45	9	9	VSD9704SA645	Standardization of Screw and Washers	G/K6TRA0001
47	11	11	VSD9704SA647	Standardization of Screw	G/K6TRA0001

## Technical Bulletin DVCPRO : AJ-D750E / AJ-D640E / AJ-D650E

AJ-D750E	AJ-D640E	AJ-D650E	Order No.	Subject	Effective from
48			VSD9704SA648	Improvement of T1 Boat Unit Lock	H6TRA0001
49	12	12	VSD9704SA649	Change of Screws for Cleaner Solenoid Unit	H/K6TRA0001
	21	21	VSD9704SC607	Software Version Up Grades	K6TRA0001
			VSD9704SA651	Correction in Parts Number List	
	29	29	VSD9704SC615	Software Version Up Grades	A7TRA0001
54	31	31	VSD9704SA654	Reduction of Block Error Noise	C7TRB0001
55	32	32	VSD9704SA655	Improvement of Record Track Position	C7TRB0001
56			VSD9705SA656	Countermeasure for Electric Power Capability of 3 Terminals Regulator IC under High Temperature (60°C)	C7TRB0001
57					
58			VSD9705SA658	Software Version Up Grades	D7TRB0001
	35	35	VSD9705SC619	Countermeasure for Electric Power Capability of 3 Terminals Regulator IC under High Temperature (60°C)	C7TRA0001
	36	36	VSD9705SC620	Software Version Up Grades	D7TRA0001
77	49	49	VSD9706SA677	Extension of Maintenance time	
	50	50	VSD9708SC622	Major Mechanism Parts Replacement and Adjustment Procedures	First Production
	78	78	VSD9710SC628	Change of Factory Default Setting od DIP SW 501-8	H7TRA0001
	83	83	VSD9711SC629	Software Version Up Grade	I7TRA0001
	84	84	VSD9711SC630	Improvement of Video Output Line Shift	J7TRA0001
	87	87	VSD9711SC633	Software Version Up Grades	J7TRA0001
96			VSD9710SA696	Deletion of Parts	G7TRA0001
106			VSD9710SA706	Change of Factory Default Setting od DIP SW 501-8	H7TRA0001
112			VSD9711SA712	Software Version Up Grade	I7TRA0001
114			VSD9711SA714	Software Version Up Grade	J7TRB#0001



# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Pedestal Level Adjustment

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	90	VSD9612MJ01A/B	L7TRA0001
AJ-D640E	90	VSD9612MJ01A/B	L7TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : Pedestal Level Adjustment in the V blanking area cannot be performed correctly on the New F4 Board. (VEP83352B-4/VJB83352-2)

Cause : Due to the poor margin of the variable resistor value.

Remedy : To improve the Pedestal Level Adjustment, resistors R374 and R375 are changed from 1/16W, 10K $\Omega$  to 1/16W, 5.6K $\Omega$  on the component side.

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
R374, 375	ERJ3GEYJ103	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	2	

Schematic Diagram			P.C. Board	
Ref. No.	Page	Area No.	Page	Area No.
R374 R375	2-49	E-12 (5/16)	3-5	G-2 (C)
	2-49	E-12 (5/16)	3-5	G-2 (C)

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# Technical Bulletin

## ***Supplement to the Service Manual***

**Broadcast Product****Subject : Introduction of New V IN P.C. Board**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	116	VSD9606M502A/B	L7TRB0001
AJ-D650E	91	VSD9612MJ01A/B	L7TRA0001
AJ-D640E	91	VSD9612MJ01A/B	L7TRA0001

Board : V IN (F6:VEP83398A)

To improve the manufacturing productivity and introduce the new function, a new F6 V IN P.C. Board (VEP83398A / VJB83398) is introduced. This Technical Bulletin contains the following items.

- 1). Electrical Adjustment Procedure
- 2). Parts List
- 3). Schematic Diagram
- 4). P.C. Board Layout

According to this change, the following modification is performed.

- 1). Standardization of P.C. Board.
- 2). A/D Converter for the color is changed.
- 3). V Blanking circuit is added. (for AJ-D650/AJ-D640)

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5246107355253**Panasonic**

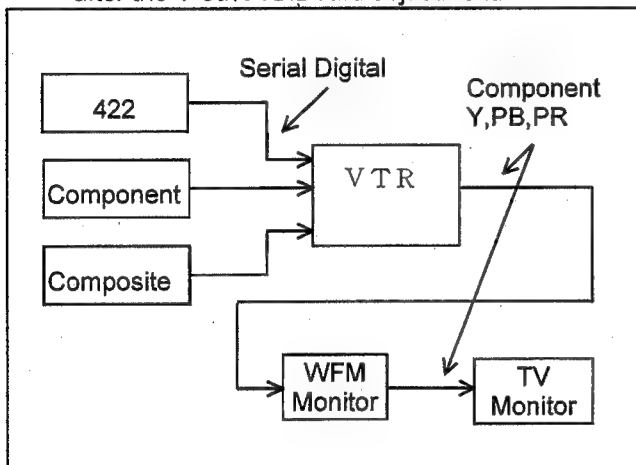
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## 8. V IN P.C.Board

### 8-1. Preparation for Video In Adjustment

BOARD	V IN (F6)
SPEC.	
TEST	
ADJUST	
INPUT	
MODE	
TAPE	
M.EQ	

1. Connect the equipment as shown in the figure.
2. V IN P.C.Board adjustment should be performed after the V out P.C.Board adjustment.



### 8-2. Component 13.5MHz VCO Adjustment

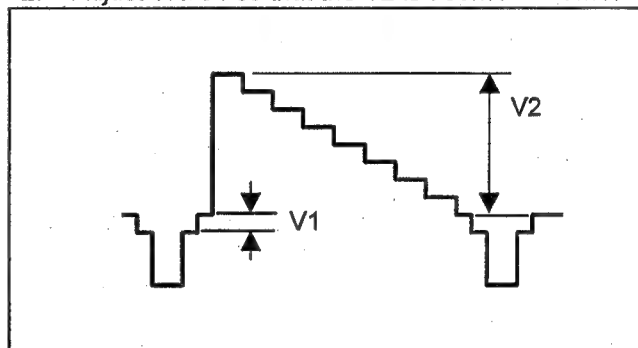
BOARD	V IN (F6)
SPEC.	$0 \pm 0.1V$
TEST	TP553
ADJUST	VL551, VR552
INPUT	ANALOG Y, PB, PR 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	Oscilloscope

1. Set VR552 to the center.
2. First, turn VL551 CCW and adjust VR552 so that the DC Voltage is  $0 \pm 0.1V$ .

### 8-3. Component Y Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1 = 0 \pm 7mV, V2 = 700 \pm 7mV$
TEST	Y out
ADJUST	VR652, VR651
INPUT	ANALOG Y, PB, PR, 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	WFM

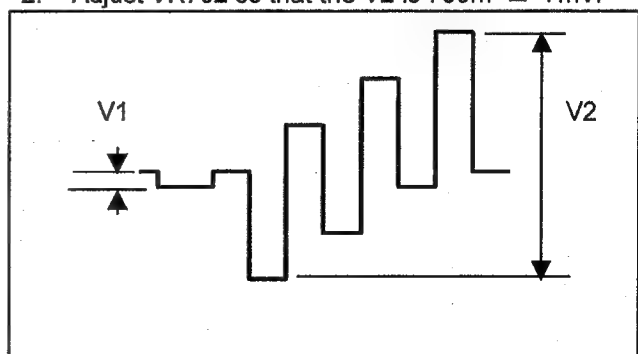
1. Adjust VR652 so that the V1 is  $0V \pm 7mV$ .
2. Adjust VR651 so that the V2 is  $700mV \pm 7mV$ .



### 8-4. Component PB Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1 = 0 \pm 7mV, V2 = 700 \pm 7mV$
TEST	PB out
ADJUST	VR703, VR702
INPUT	ANALOG Y, PB, PR 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	WFM

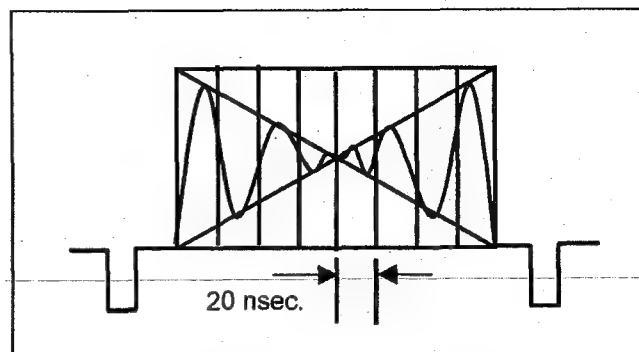
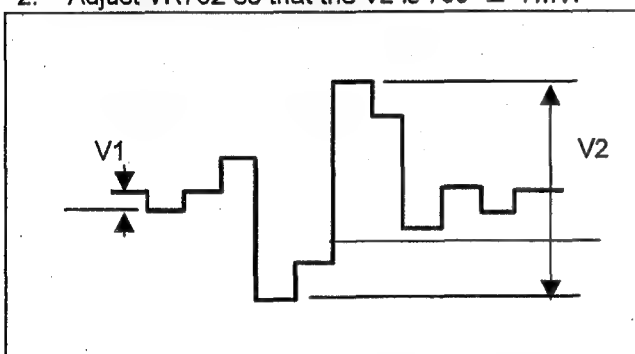
1. Adjust VR703 so that the V1 is  $0 \pm 7mV$ .
2. Adjust VR702 so that the V2 is  $700mV \pm 7mV$ .



### 8-5. Component PR Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1 = 0 \pm 7\text{mV}$ , $V2 = 700 \pm 7\text{mV}$
TEST	PR out
ADJUST	VR753, VR752
INPUT	ANALOG Y, PB, PR 100% Color Bar
MODE	EE
TAPE	-----
M.EQ	WFM

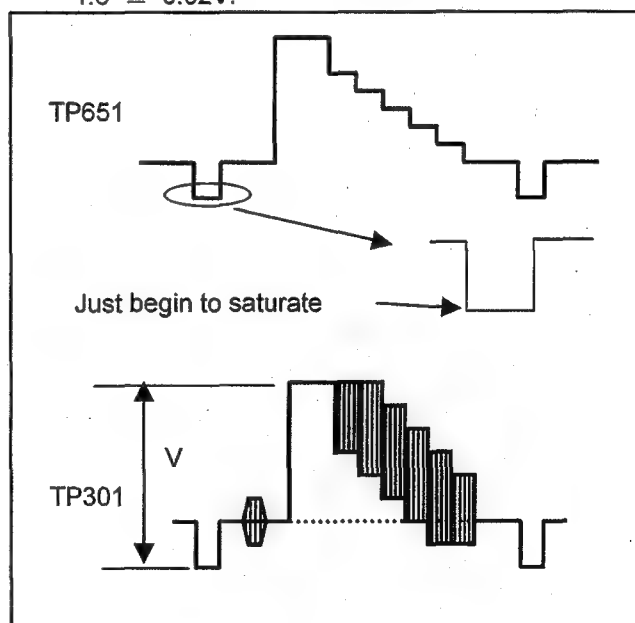
1. Adjust VR753 so that the  $V1$  is  $0 \pm 7\text{mV}$ .
2. Adjust VR752 so that the  $V2$  is  $700 \pm 7\text{mV}$ .



### 8-7. Composite Input Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 1.6 \pm 0.02\text{V}$
TEST	TP651, TP301
ADJUST	VR301, VR251
INPUT	COMPOSITE 100% Color Bar
MODE	E-E
TAPE	-----
M.EQ	Oscilloscope

1. Observe TP651 and adjust VR301 at the point where the sync tip just begin to saturate.
2. Adjust VR251 so that the voltage at TP301 is  $1.6 \pm 0.02\text{V}$ .



### 8-6. Component Y/C Timing Adjustment

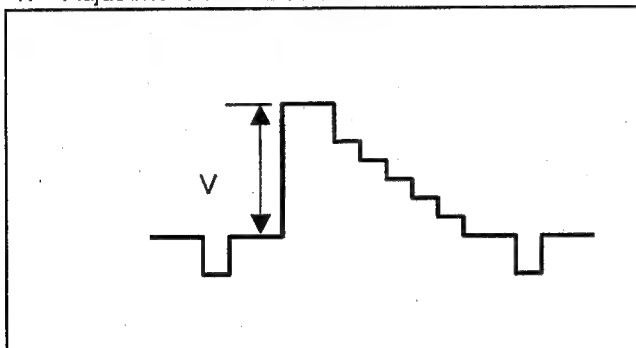
BOARD	V IN (F6)
SPEC.	$0 \pm 10\text{n sec}$
TEST	Y, PB, PR out
ADJUST	PB TIM VR701, PR-TIM VR751
INPUT	ANALOG Y, PB, PR BOWTIE
MODE	E-E
TAPE	-----
M.EQ	WFM

1. Adjust VR701 so that the minimum level of the Y/PB timing signal is  $\pm 10\text{nsec}$  against the center scale.
2. Adjust VR751 so that the minimum level of the Y/PR timing signal is  $\pm 10\text{nsec}$  against the center scale.

### 8-8. Composite Y Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 700 \pm 7\text{mV}$
TEST	Y out
ADJUST	VR352
INPUT	COMPOSITE 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	WFM

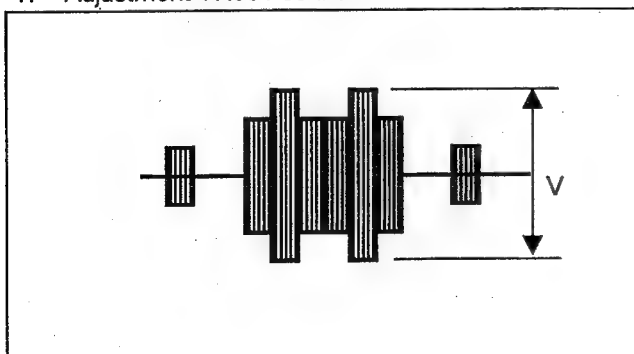
1. Adjustment VR352 so that the V is  $700 \pm 7\text{mV}$ .



### 8-9. Composite Color Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 500 \pm 20\text{mVp-p}$
TEST	TP451
ADJUST	VR351
INPUT	COMPOSITE 100% Color Bar
MODE	EE
TAPE	----
M.EQ	WFM

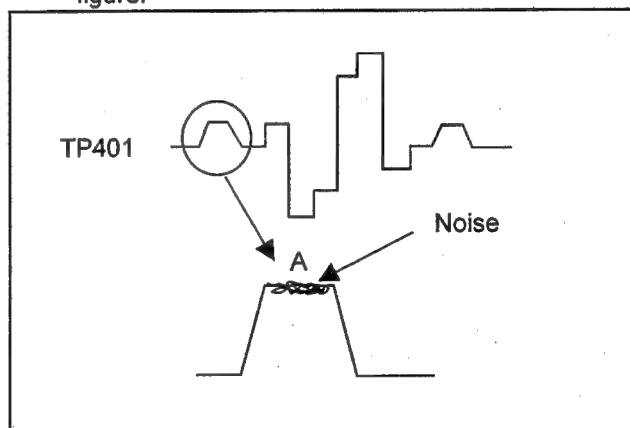
1. Adjustment VR351 so that the V is  $500 \pm 20\text{mV}$ .



### 8-10. Composite Color Demodulation Adjustment

BOARD	V IN (F6)
SPEC.	See Figure Below.
TEST	TP401
ADJUST	VR408, VR409
INPUT	COMPOSITE 100% Color Bar
MODE	EE
TAPE	----
M.EQ	Oscilloscope

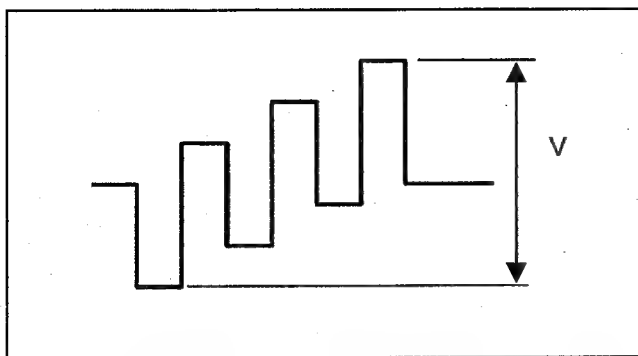
1. Adjust VR408 so that the waveform is as shown in figure (no double image).
2. Adjust VR409 so that the noise portion is positioned on the top of A portion as shown in figure.



### 8-11. Composite PB Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 700 \pm 7\text{mV}$
TEST	PB out
ADJUST	VR460
INPUT	COMPOSITE 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	WFM

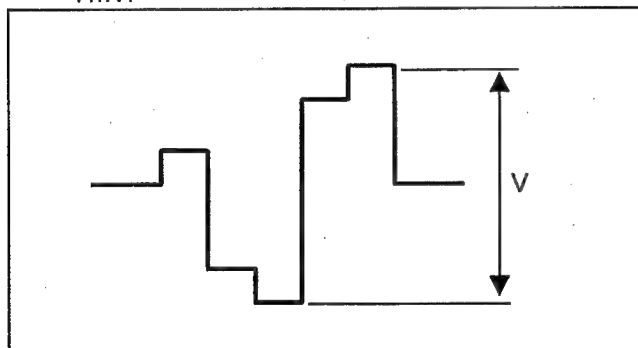
1. Adjustment VR460 so that the V is  $700\text{mV} \pm 7\text{mV}$ .



### 8-12. Composite PR Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 486 \pm 7\text{mV}$
TEST	PR out
ADJUST	VR464
INPUT	COMPOSITE 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	WFM

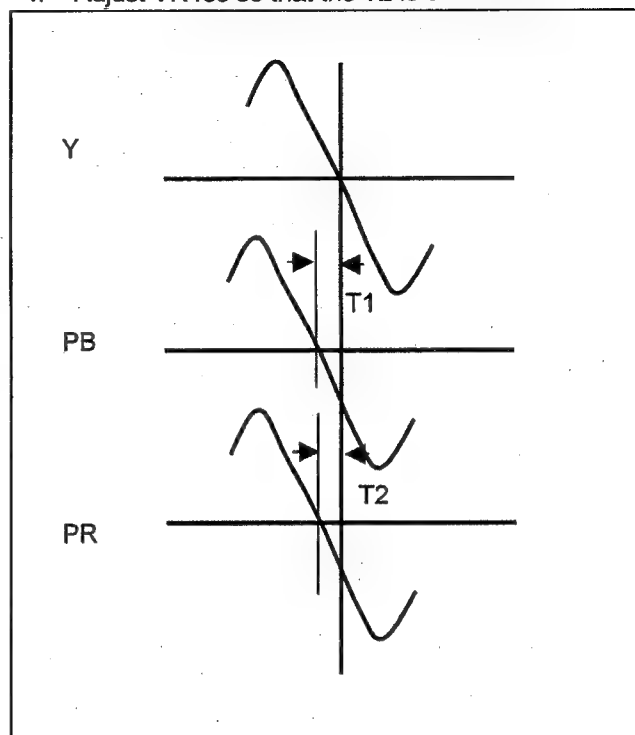
1. Adjustment VR464 so that the V is  $486\text{mV} \pm 7\text{mV}$ .



### 8-13. Composite YC Timing Adjustment

BOARD	V IN (F6)
SPEC.	$T1 = 0 \pm 10\text{nsec}$ $T2 = 0 \pm 10\text{nsec}$
TEST	Y PB PR out
ADJUST	PB TIM:VR459, PR TIM:VR463
INPUT	PULSE & BAR
MODE	E-E
TAPE	----
M.EQ	WFM

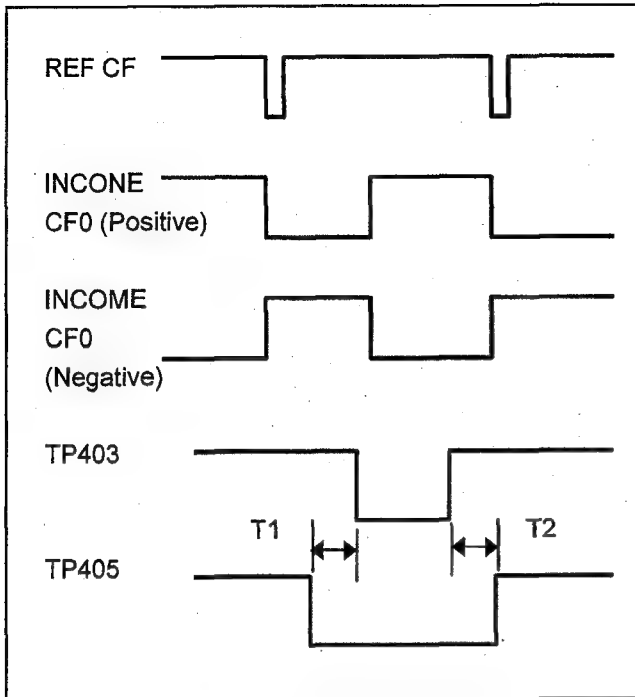
1. Set the WFM in the DIFF MODE.
2. Observe the MOD 12.5T portion.
3. Adjust VR459 so that the T1 is  $0 \pm 10\text{n sec}$ .
4. Adjust VR463 so that the T2 is  $0 \pm 10\text{n sec}$ .



### 8-14. Composite SCH Detection Adjustment

BOARD	V IN (F6)
SPEC.	$T1-T2 = \pm 0.5\text{m sec}$
TEST	INCOME CF, PIN 3 of IC502 TP403, TP405
ADJUST	VR407
INPUT	COMPOSITE 100% color bar CF PULSE
MODE	E-E
TAPE	----
M.EQ	Oscilloscope

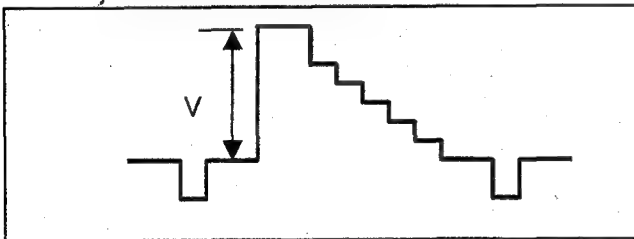
1. Set VR407 fully CCW.
2. Slowly rotate VR407 CW and set the position where the CF0 pulse just changes from the positive to negative phase.
3. Connect the scope CH1 to TP403 and CH2 to TP405.
4. Slowly adjust VR407 CW so that T1 and T2 are equal.



### 8-15. Y/C Y Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 700 \pm 7\text{mV}$
TEST	COMPONENT Y out
ADJUST	VR354
INPUT	COMPOSITE 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	WFM

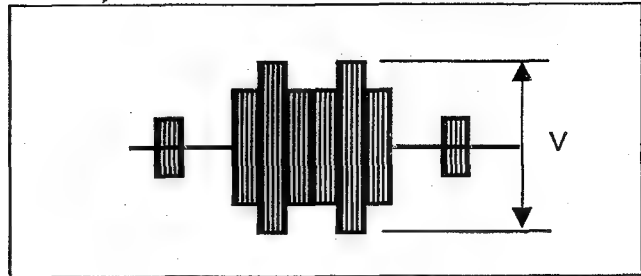
1. Adjustment VR354 so that the V is  $700 \pm 7\text{mV}$ .



### 8-16. Y/C Color Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 500 \pm 20\text{mVp-p}$
TEST	TP451
ADJUST	VR353
INPUT	COMPOSITE 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	WFM

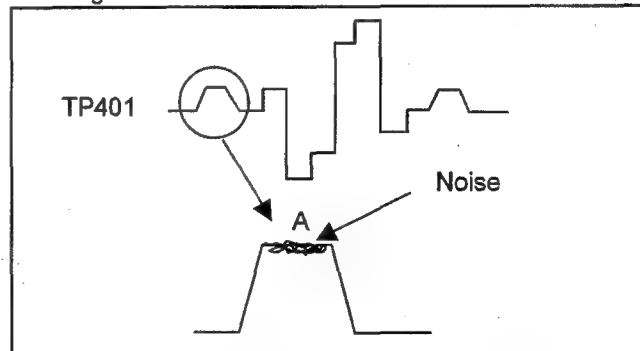
1. Adjustment VR353 so that the V is  $500 \pm 20\text{mV}$ .



### 8-17. Y/C Color Demodulation Adjustment

BOARD	V IN (F6)
SPEC.	See Figure Below.
TEST	TP401
ADJUST	VR410, VR409
INPUT	COMPOSITE 100% Color Bar
MODE	E-E
TAPE	----
M.EQ	Oscilloscope

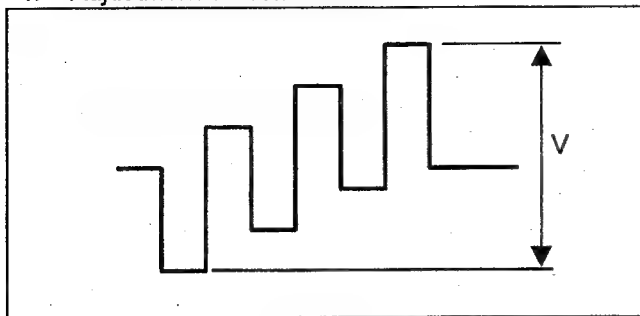
1. Adjust VR410 so that the waveform is as shown in figure (no double image).
2. Adjust VR409 so that the noise portion is positioned on the top of A portion as shown in figure.



### 8-18. Y/C PB Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 700 \pm 7\text{mV}$
TEST	PB out
ADJUST	VR462
INPUT	COMPOSITE 100% Color Bar
MODE	EE
TAPE	----
M.EQ	WFM

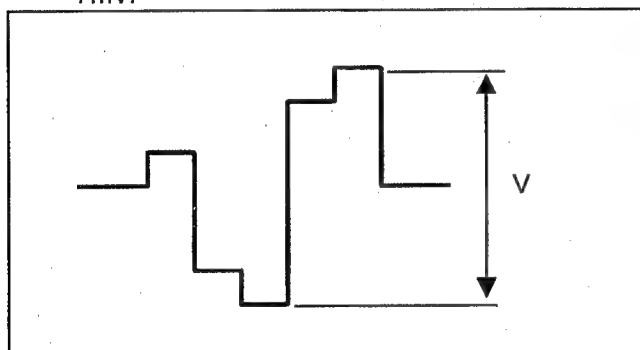
1. Adjustment VR462 so that the V is  $700\text{mV} \pm 7\text{mV}$ .



### 8-19. Y/C PR Level Adjustment

BOARD	V IN (F6)
SPEC.	$V = 700 \pm 7\text{mV}$
TEST	PR out
ADJUST	VR466
INPUT	COMPOSITE 100% Color Bar
MODE	E-E
TAPE	-----
M.EQ	WFM

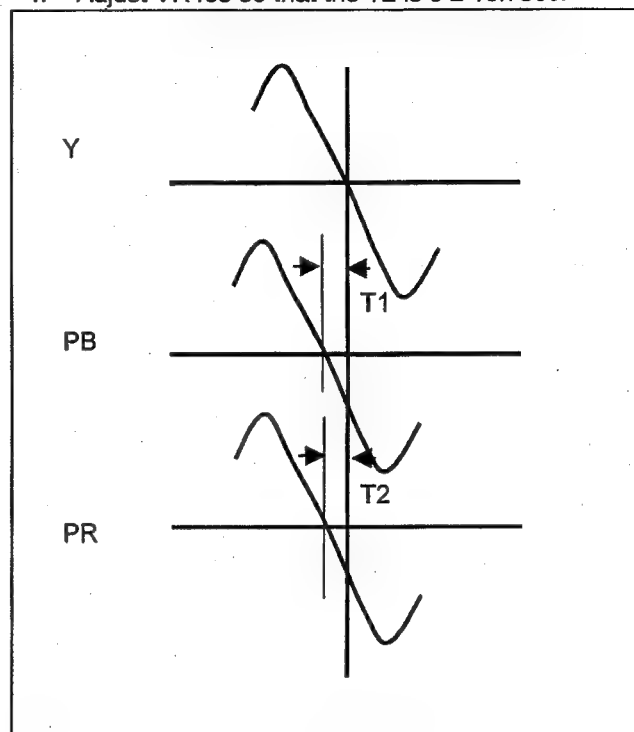
1. Adjustment VR466 so that the V is  $700\text{mV} \pm 7\text{mV}$ .



### 8-20. Y/C YC Timing Adjustment

BOARD	V IN (F6)
SPEC.	$T1 = 0 \pm 10\text{nsec}$ $T2 = 0 \pm 10\text{nsec}$
TEST	Y PB PR out
ADJUST	PB TIM:VR461, PR TIM:VR465
INPUT	PULSE & BAR
MODE	EE
TAPE	-----
M.EQ	WFM

1. Set the WFM in the DIFF MODE.
2. Observe the MOD 12.5T portion.
3. Adjust VR461 so that the T1 is  $0 \pm 10\text{n sec}$ .
4. Adjust VR465 so that the T2 is  $0 \pm 10\text{n sec}$ .

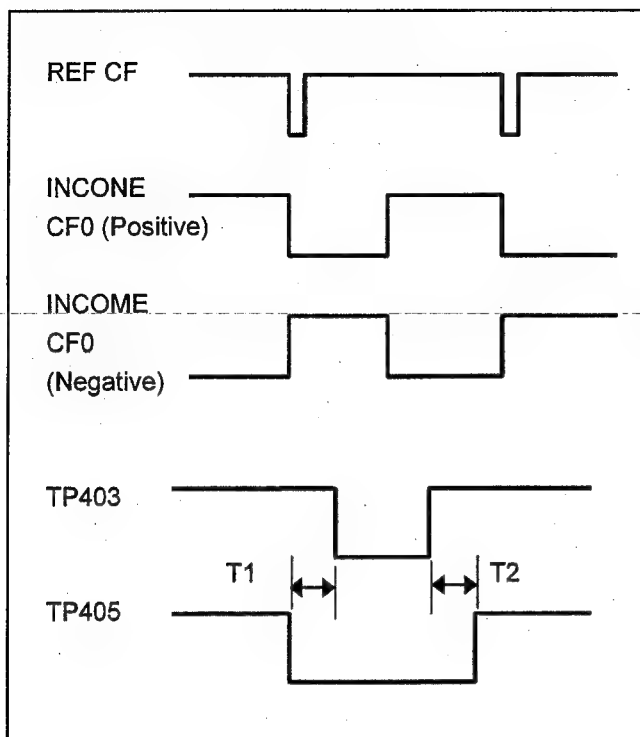


### 8-21. Y/C SCH Detection Adjustment

BOARD	V IN (F6)
SPEC.	$T1-T2 = \pm 0.5\text{mS}$
TEST	INCOME CF, PIN 8C of P2, TP403, TP405
ADJUST	VR406
INPUT	COMPOSITE 100% color bar CF PULSE
MODE	E-E
TAPE	-----
M.EQ	Oscilloscope

1. Set VR406 fully CCW.
2. Slowly rotate VR406 CW and set the position where the CF0 pulse just changes from the positive to negative phase.
3. Connect the scope CH1 to TP403 and CH2 to TP405.
4. Slowly adjust VR406 CW so that T1 and T2 are equal.

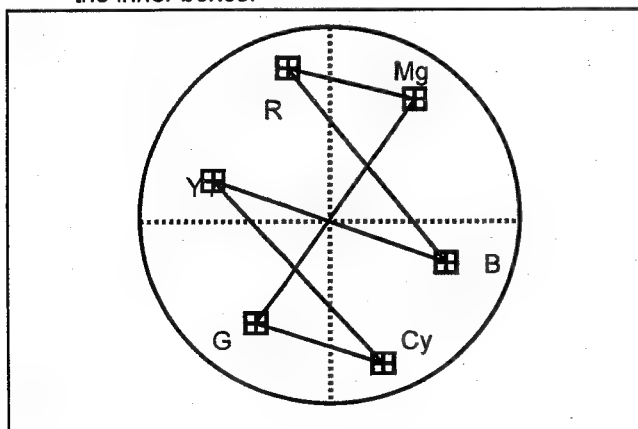




## 8-22. Composite Vector Adjustment

<b>BOARD</b>	V IN (F6)
<b>SPEC.</b>	All Vector Dots are in Inner Boxes
<b>TEST</b>	COMPOSITE out
<b>ADJUST</b>	VR409
<b>INPUT</b>	COMPOSITE 100% Color Bar
<b>MODE</b>	E-E
<b>TAPE</b>	-----
<b>M.EQ</b>	WFM

1. Set the vector scope in the NTSC display mode.
2. Adjustment VR409 so that the all vector dots are in the inner boxes.



## VEP83398A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP83398A	F8 V IN P.C. BOARD	1	(RTL)	C400	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
					C401	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
					C402	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
					C403-05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
					C408	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C51-54	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		C410-13	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C55	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1		C414	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C56	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1		C415, 18	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C57	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1		C417	ECEV1HV4R7Q	E. CAPACITOR CH 50V 4.7U	1	
C58-64	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	7		C418-20	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	3	
C65	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1		C421-23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C66	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1		C424	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
C67	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1		C425	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
C68-70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		C426	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C101-08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8		C427, 28	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C110	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		C429	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C151-59	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9		C430	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C160	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		C431	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
C201-08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8		C432	ECEV1HNR47Q	E. CAPACITOR CH 50V 0.47U	1	
C212-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		C433	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C251-54	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	4		C434	ECUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
C255-60	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	6		C435-39	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C261	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C442	ECUM1H070DCN	C. CAPACITOR CH 50V 7P	1	
C262, 63	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		C443	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C264	ECEV1EV4R7Q	E. CAPACITOR CH 25V 4.7U	1		C451	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1	
C265-68	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		C452-55	ECEV1CV100Q	E. CAPACITOR CH 18V 10U	4	
C269, 70	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	2		C456-60	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C271-76	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	6		C461-64	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	4	
C277	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1		C465	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C278	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1		C466-70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C279, 80	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		C471, 72	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C281	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1		C473	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C283	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1		C474	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C284	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		C475	ECUX1H180JCN	C. CAPACITOR CH 50V 18P	1	
C285	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1		C476	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C286	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1		C477	ECUX1H180JCN	C. CAPACITOR CH 50V 18P	1	
C287	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1		C478-80	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	3	
C288, 89	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2		C481, 82	ECUM1H040CCN	C. CAPACITOR CH 50V 4P	2	
C290	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	1		C483, 84	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C292	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1		C485, 86	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	2	
C301, 02	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		C487-90	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	4	
C303-06	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	4		C491, 92	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C307	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1		C493-96	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	4	
C308-11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		C497-00	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	4	
C312	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		C501, 02	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	2	
C313	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		C503-06	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	4	
C315	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		C510	ECEV1CV470Q	E. CAPACITOR CH 18V 47U	1	
C317-21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5		C511-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C322	ECUX1H180JCN	C. CAPACITOR CH 50V 18P	1		C516	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C324-26	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		C517	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C327	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1		C518, 19	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C328, 29	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		C520, 21	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	2	
C330	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	1		C523	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	1	
C331-33	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		C524, 25	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C334	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1		C526	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C351-54	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		C527, 28	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C355-57	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	3		C530	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C358-61	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		C531, 32	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C363, 64	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		C551, 52	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	2	
C365, 66	ECEVOJV330Q	E. CAPACITOR CH8.3V 33U	2		C553	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C368-76	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9		C554	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C378	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C555, 56	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C380	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1		C557	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C381	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C558, 59	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C383	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		C560	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C386, 87	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		C561	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C389	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C562	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C390, 91	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		C563	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C392	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1		C564	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
C393	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1		C565	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C394	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1		C566	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C395	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1		C567	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C396	ECUM1H070DCN	C. CAPACITOR CH 50V 7P	1		C568	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C397	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		C569, 70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C398	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1		C571	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C399	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1						

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C572	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C573	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C576	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C578	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C579, 80	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	2	
C581	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C601, 02	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C603, 04	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C651	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C652-54	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C655	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C656-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C659, 60	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C661, 62	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C663, 64	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C665	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C666	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C667	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C668, 69	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C671	ECUM1H010CCN	C. CAPACITOR CH 50V 1P	1	
C672	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C673	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C675	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C676	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C677	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C678	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
C679	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C680, 81	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C682	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C683-85	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C686	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C687-89	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C701	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C702	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C703-05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C706	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C707-09	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C710, 11	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C712	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C713	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C714	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C715	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C716, 17	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C718	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C719	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C720	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C721	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C722	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C725	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C726	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C728	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C729	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C730	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C731	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
C732	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C734	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C736	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C738	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C739	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C740-42	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C751	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C752	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C753-55	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C756	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C757-59	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C760, 81	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C762	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
C763	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C764	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C765	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C766, 67	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
C768	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C769	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C770	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C771	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C772	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C775	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C776	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C778	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C779	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C780	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C781	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
C782	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C784	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C786	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C788	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C789	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
C790	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C792	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C801-10	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	10	
C853-55	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C856	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C857	ECUX1H150JCN	C. CAPACITOR CH 50V 15P	1	
C858-67	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	10	
D251, 52	MA152K	DIODE	2	
D253	MA152WK	DIODE	1	
D301, 02	MA152K	DIODE	2	
D451	MA152K	DIODE	1	
D501	MA152WK	DIODE	1	
D551	MA152K	DIODE	1	
D552	MA335-R	DIODE	1	
D553	MA152WA	DIODE	1	
D651, 52	MA152K	DIODE	2	
D701, 02	MA152K	DIODE	2	
D751, 52	MA152K	DIODE	2	
FL51, 52	VLF1016A223	FILTER	2	
FL251	VLF1294	FILTER	1	
FL301	VLF1016A223	FILTER	1	
FL351	VLF1016A223	FILTER	1	
FL551, 52	VLF1016A223	FILTER	2	
FL651	VLF1294	FILTER	1	
FL652	VLF1016A223	FILTER	1	
FL701	VLF1295	FILTER	1	
FL751	VLF1295	FILTER	1	
FL801, 02	VLF1016A223	FILTER	2	
FL851, 52	VLF1016A223	FILTER	2	
IC51	AN78N09	IC	1	
IC52	AN78N05	IC	1	
IC53	AN78N09	IC	1	
IC54	AN78N05	IC	1	
IC101-03	MC10H125M	IC	3	
IC107	MC10H125M	IC	1	
IC110	74F244SJ	IC	1	
IC151, 52	SN74S1051NS	IC	2	
IC153	VS12496	IC	1	
IC156	74ALS245ASJ	IC	1	
IC164, 65	UPD71055GB	IC	2	
IC201	VS12402A	IC	1	
IC202	VS12382	IC	1	
IC203	T74HCT541AF	IC	1	
IC204	T74HCT374AF	IC	1	
IC205	74F574SJ	IC	1	
IC210	T74HCT374AF	IC	1	
IC251	DAC108S	IC	1	
IC252	NJM082BM	IC	1	
IC254	EL2082CS	IC	1	
IC255	NJM78L05UA	IC	1	
IC256	NJM78L05UA	IC	1	
IC257	TC4W53F	IC	1	
IC258	AN91A12S	IC	1	
IC259	MC74HC00AF	IC	1	
IC301	NJM78L05UA	IC	1	
IC302	NJM78L05UA	IC	1	
IC303	NJM084M	IC	1	
IC304	ADB18AR	IC	1	
IC306	CXD1175AM	IC	1	
IC309	NJM78L05UA	IC	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC351, 52	NJM78L05UA	IC	2		L354	VLQ0163J270	COIL	27UH	1
IC353	NJM78L05UA	IC	1		L355	VLQ0163J6R8	COIL	6.8UH	1
IC354	CXD2105AQ	IC	1		L356	VLQ0163J5R8	COIL	5.6UH	1
IC355	AD8047AR	IC	1		L401	VLQ0319K101	COIL	100UH	1
IC356	MC74HC4053F	IC	1		L451-55	VLQ0319K101	COIL	100UH	5
IC357, 58	AD8047AR	IC	2		L456	VLQ0163J470	COIL	47UH	1
IC359	MC74HC4053F	IC	1		L457, 58	VLQ0163J580	COIL	58UH	2
IC401	SN74LS221NS	IC	1		L501	VLQ0133J391	COIL	390UH	1
IC402, 03	MM74HC221AM	IC	2		L551	VLQ0163J3R3	COIL	3.3UH	1
IC404	MC74HC04AF	IC	1		L801, 02	VLQ0319K101	COIL	100UH	2
IC406	NJM78L05UA	IC	1		L851	VLQ0133J821	COIL	820UH	1
IC407	NJM78L05UA	IC	1		L852	VLQ0319K101	COIL	100UH	1
IC410	NJM082BM	IC	1		L701	VLQ0133J821	COIL	820UH	1
IC414	MC74HC4053F	IC	1		L751	VLQ0133J821	COIL	820UH	1
IC418	NJM082BM	IC	1						
IC419	MC74HC4053F	IC	1		P1, P2	VJP3454B096	CONNECTOR (MALE)		2
IC423	NJM082BM	IC	1						
IC428	UPD65013BC16	IC	1		Q251	2SB709A-R	TRANSISTOR		1
IC451	NJM319M	IC	1		Q252, 53	2SD601A-R	TRANSISTOR		2
IC452, 53	NJM1496M	IC	2		Q301	2SB709A-R	TRANSISTOR		1
IC455, 56	MC74HC4053F	IC	2		Q302	2SD601A-R	TRANSISTOR		1
IC459	NJM78L05UA	IC	1		Q303	2SK198-R	TRANSISTOR		1
IC460	NJM78L05UA	IC	1		Q351	2SD601A-R	TRANSISTOR		1
IC501	NJM78L05UA	IC	1		Q352	2SB709A-R	TRANSISTOR		1
IC502	NJM78L05UA	IC	1		Q401, 02	2SD601A-R	TRANSISTOR		2
IC503	AN91A12S	IC	1		Q451-54	2SD601A-R	TRANSISTOR		4
IC504	MC14538BF	IC	1		Q455-58	2SB709A-R	TRANSISTOR		4
IC507	MN53015VZW	IC	1		Q459-67	2SD601A-R	TRANSISTOR		9
IC551	MC74HC00AF	IC	1		Q551	2SC3757-R	TRANSISTOR		1
IC552	TC4S584F	IC	1		Q552, 53	2SA1226	TRANSISTOR		2
IC554	MC74HC74AF	IC	1		Q554	2SC3757-R	TRANSISTOR		1
IC557	SN74LS221NS	IC	1		Q601-03	2SB709A-R	TRANSISTOR		3
IC560	NJM082BM	IC	1		Q606-08	2SD601A-R	TRANSISTOR		3
IC561	TC4W53F	IC	1		Q651	2SD601A-R	TRANSISTOR		1
IC562	SN74LS221NS	IC	1		Q652-54	2SB709A-R	TRANSISTOR		3
IC567	MC74HC244AF	IC	1		Q655	2SD601A-R	TRANSISTOR		1
IC651	NJM78L05UA	IC	1		Q656	2SK198-R	TRANSISTOR		1
IC652	NJM78L05UA	IC	1		Q701	2SD601A-R	TRANSISTOR		1
IC653	MC74HC4053F	IC	1		Q702	2SB709A-R	TRANSISTOR		1
IC655	NJM084M	IC	1		Q703	2SD601A-R	TRANSISTOR		1
IC656	AD848JR	IC	1		Q704	2SB709A-R	TRANSISTOR		1
IC660	CXD1175AM	IC	1		Q705	2SD601A-R	TRANSISTOR		1
IC661	NJM78L05UA	IC	1		Q706	2SK198-R	TRANSISTOR		1
IC701	NJM78L05UA	IC	1		Q751	2SD601A-R	TRANSISTOR		1
IC702	NJM78L05UA	IC	1		Q752	2SB709A-R	TRANSISTOR		1
IC703	MC74HC4053F	IC	1		Q753	2SD601A-R	TRANSISTOR		1
IC705	NJM084M	IC	1		Q754	2SB709A-R	TRANSISTOR		1
IC706	AD848JR	IC	1		Q755	2SD601A-R	TRANSISTOR		1
IC710	MB40568PF	IC	1		Q756	2SK198-R	TRANSISTOR		1
IC711	NJM78L05UA	IC	1						
IC712	AN78N09	IC	1		QR151	MUN2212	TRANSISTOR-RESISTOR		1
IC713	T74HCT541AF	IC	1		QR501	MUN2212	TRANSISTOR-RESISTOR		1
IC751	NJM78L05UA	IC	1						
IC752	NJM78L05UA	IC	1		R2-R8	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	7
IC753	MC74HC4053F	IC	1		R10-22	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	13
IC755	NJM084M	IC	1		R24-55	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	32
IC756	AD848JR	IC	1		R101-12	ERJ6GEY0101	M. RESISTOR CH 1/10W	100	12
IC760	MB40568PF	IC	1		R113	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1
IC761	NJM78L05UA	IC	1		R115	ERJ6GEY0101	M. RESISTOR CH 1/10W	100	1
IC762	AN78N09	IC	1		R118, 19	ERJ6GEY0103	M. RESISTOR CH 1/10W	10K	2
IC801	UPD42280G3	IC	1		R159, 60	ERJ6GEY0103	M. RESISTOR CH 1/10W	10K	2
IC802	T160G41-1437	IC	1		R217	ERJ6GEY0101	M. RESISTOR CH 1/10W	100	1
IC803	UPD42280G3	IC	1		R251	ERJ6GEY0183	M. RESISTOR CH 1/10W	18K	1
IC853	74F244SJ	IC	1		R252	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1
IC854	CG25123-5106	IC	1		R253	ERJ6GEY6562	M. RESISTOR CH 1/10W	5.6K	1
IC855, 56	CY7019820ZC	IC	2		R254	ERJ6GEY0102	M. RESISTOR CH 1/10W	1K	1
IC857, 58	74F244SJ	IC	2		R255	ERJ6GEY0101	M. RESISTOR CH 1/10W	100	1
					R256	ERJ6GEY0331	M. RESISTOR CH 1/10W	330	1
					R257	ERJ6GEY0102	M. RESISTOR CH 1/10W	1K	1
L1, L2	VLP0133	COIL	2		R258, 59	ERJ6GEY822	M. RESISTOR CH 1/10W	8.2K	2
L51, 52	VLP0133	COIL	2		R280	ERJ6GEY0101	M. RESISTOR CH 1/10W	100	1
L251-54	VLQ0319K101	COIL	100UH	4	R281	ERJ6GEY0331	M. RESISTOR CH 1/10W	330	1
L255	VLQ0133J471	COIL	470UH	1	R282, 63	ERJ6GEY0102	M. RESISTOR CH 1/10W	1K	2
L256	VLQ0319K101	COIL	100UH	1	R284	ERJ6GEYF561	M. RESISTOR CH 1/10W	560	1
L301, 02	VLQ0319K101	COIL	100UH	2	R285	ERJ6GEY0102	M. RESISTOR CH 1/10W	1K	1
L351, 52	VLQ0319K101	COIL	100UH	2					

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R266, 67	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R268	ERJ8GEYG221	M. RESISTOR CH 1/10W 220	1	
R269	ERJ8GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R270	ERJ8GEYJ684	M. RESISTOR CH 1/10W 680K	1	
R271-73	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	3	
R274	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R275	ERJ8GEYF333	M. RESISTOR CH 1/10W 33K	1	
R276	ERJ8GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R301	ERJ8GEYG394	M. RESISTOR CH 1/10W 390K	1	
R302	ERJ8GEYG154	M. RESISTOR CH 1/10W 150K	1	
R303	ERJ8GEYF561	M. RESISTOR CH 1/10W 560	1	
R304	ERJ8GEYG220	M. RESISTOR CH 1/10W 22	1	
R305	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R307	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R308	ERJ8GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R309, 10	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R311	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R313, 14	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R316, 17	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2	
R318	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R319	ERJ8GEYG662	M. RESISTOR CH 1/10W 6.6K	1	
R353	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R354	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1	
R355	ERJ8GEYG121	M. RESISTOR CH 1/10W 120	1	
R356	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R357	ERJ8GEYG560	M. RESISTOR CH 1/10W 56	1	
R358	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R359	ERJ8GEYG681	M. RESISTOR CH 1/10W 680	1	
R360	ERJ8GEYF561	M. RESISTOR CH 1/10W 560	1	
R362	ERJ8GEYG560	M. RESISTOR CH 1/10W 56	1	
R363	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R365	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R366	ERJ8GEYG221	M. RESISTOR CH 1/10W 220	1	
R367	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R368	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	1	
R369	ERJ8GEYG681	M. RESISTOR CH 1/10W 680	1	
R370	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R371	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R373	ERJ8GEYG821	M. RESISTOR CH 1/10W 820	1	
R375	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	1	
R376	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R377	ERJ8GEYG681	M. RESISTOR CH 1/10W 680	1	
R379	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1	
R380	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R381, 82	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R384	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1	
R385	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R386	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R387	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R390	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R393, 94	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R395	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1	
R401	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R402	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R403	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R404	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R405	ERJ8GEYG272	M. RESISTOR CH 1/10W 2.7K	1	
R406	ERJ8GEYG183	M. RESISTOR CH 1/10W 18K	1	
R407	ERJ8GEYF473	M. RESISTOR CH 1/10W 4.7K	1	
R408	ERJ8GEYF123	M. RESISTOR CH 1/10W 12K	1	
R409	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R410-12	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	3	
R413	ERJ8GEYF333	M. RESISTOR CH 1/10W 33K	1	
R414	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R415	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R416	ERJ8GEYJ274	M. RESISTOR CH 1/10W 270K	1	
R417	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R418	ERJ8GEYG183	M. RESISTOR CH 1/10W 18K	1	
R419	ERJ8GEYG394	M. RESISTOR CH 1/10W 390K	1	
R420, 21	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2	
R422	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R423, 24	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2	
R426, 27	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2	
R428	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R429	ERJ8GEYG563	M. RESISTOR CH 1/10W 56K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R430	ERJ8GEYF561	M. RESISTOR CH 1/10W 560	1	
R431, 32	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2	
R433, 34	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2	
R435, 36	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R441, 42	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R451	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R452	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R453	ERJ8GEYG223	M. RESISTOR CH 1/10W 22K	1	
R454	ERJ8GEYG821	M. RESISTOR CH 1/10W 820	1	
R455	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	1	
R456	ERJ8GEYF561	M. RESISTOR CH 1/10W 560	1	
R457	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R458, 59	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R460, 61	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2	
R462	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R463	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R464, 65	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2	
R466	ERJ8GEYF561	M. RESISTOR CH 1/10W 560	1	
R467	ERJ8GEYG821	M. RESISTOR CH 1/10W 820	1	
R468, 69	ERJ8GEYF822	M. RESISTOR CH 1/10W 8.2K	2	
R470	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R471-74	ERJ8GEYG121	M. RESISTOR CH 1/10W 120	4	
R475-78	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	4	
R479	ERJ8GEYG153	M. RESISTOR CH 1/10W 15K	1	
R480, 81	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2	
R482, 83	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R484, 85	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	2	
R486, 87	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	2	
R488-91	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	4	
R492-99	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	8	
R500-03	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	4	
R504-07	ERJ8GEYG470	M. RESISTOR CH 1/10W 47	4	
R508-11	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	4	
R512-15	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	4	
R516-19	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	4	
R520-23	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	4	
R526	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R527	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R528	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R530	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R531-33	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	3	
R534	ERJ8GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R535	ERJ8GEYJ684	M. RESISTOR CH 1/10W 680K	1	
R536-38	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	3	
R539	ERJ8GEYF473	M. RESISTOR CH 1/10W 4.7K	1	
R541	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R546	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R547	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R548	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R551	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R552	ERJ8GEYG223	M. RESISTOR CH 1/10W 22K	1	
R553	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R554	ERJ8GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R555	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R556	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1	
R557, 58	ERJ8GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R559, 60	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R561	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R562, 63	ERJ8GEYG153	M. RESISTOR CH 1/10W 15K	2	
R564	ERJ8GEYG683	M. RESISTOR CH 1/10W 68K	1	
R565	ERJ8GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R566	ERJ8GEYG681	M. RESISTOR CH 1/10W 680	1	
R567	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R571	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R572	ERJ8GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R573, 74	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	2	
R575	ERJ8GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R576	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R577	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R578	ERJ8GEYG104	M. RESISTOR CH 1/10W 100K	1	
R579	ERJ8GEYG223	M. RESISTOR CH 1/10W 22K	1	
R581	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R582	ERJ8GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R583, 84	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	2	
R586	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	

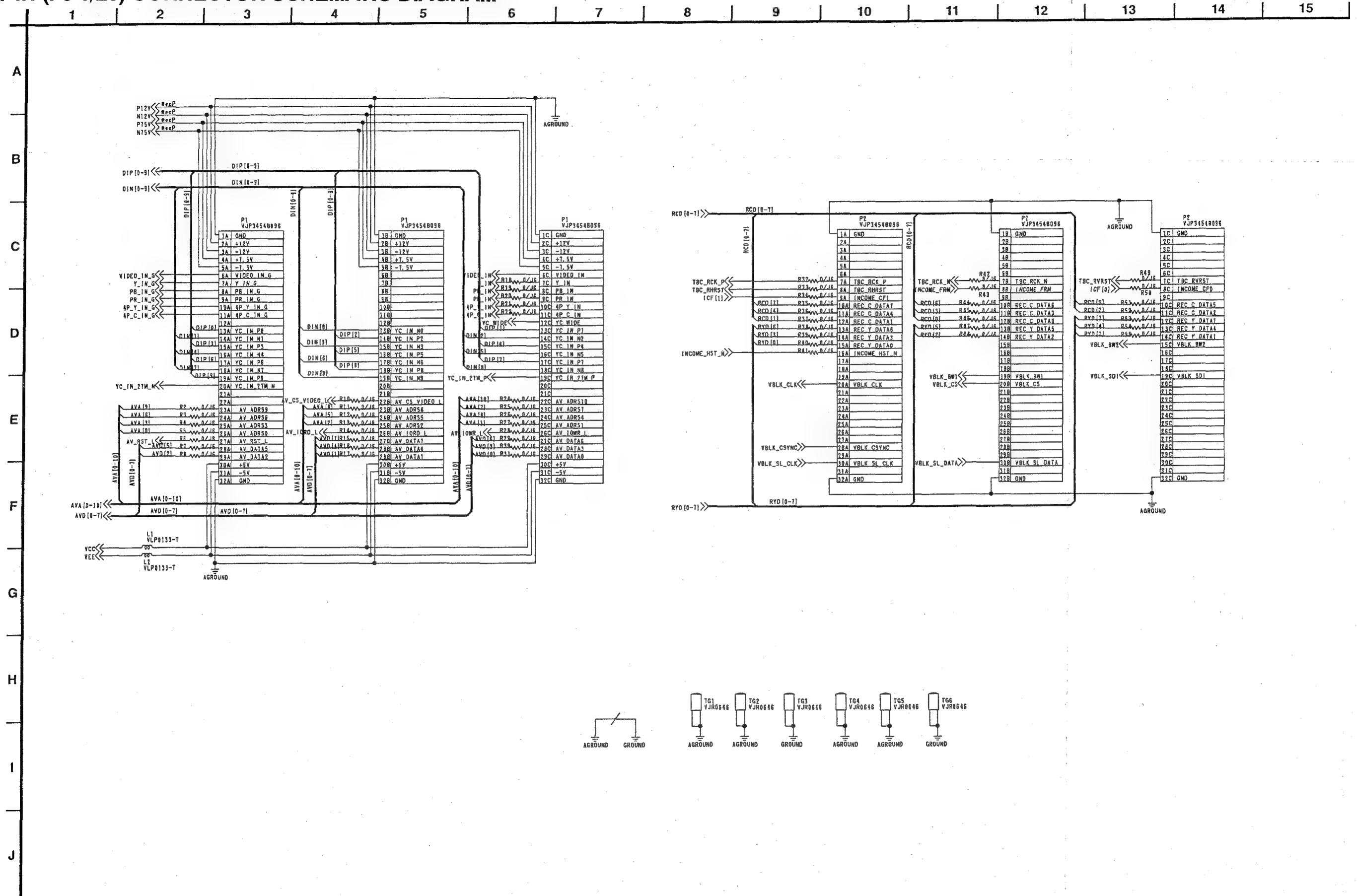
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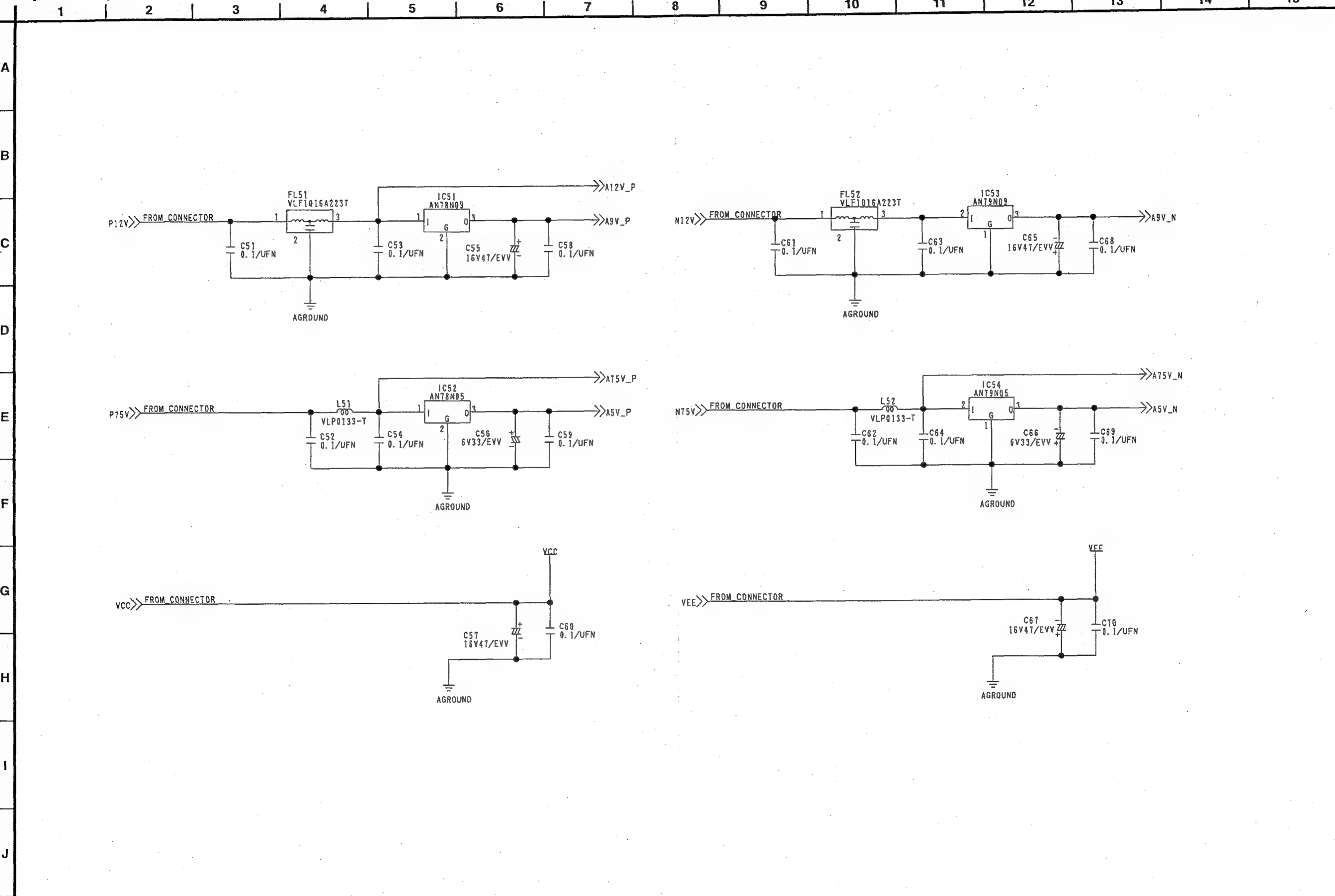
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R801-03	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	3		R778	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R804-08	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	3		R801	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1	
R807	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		R803	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R809, 10	ERJ8GEYG122	M. RESISTOR CH 1/10W 1.2K	2		R806	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R816-18	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	3		R808-15	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	8	
R851	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		R816-22	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	7	
R852	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		R823	ERJ8GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R853	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		R851	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R854	ERJ8GEYG221	M. RESISTOR CH 1/10W 220	1		R852	ERJ8GEYG271	M. RESISTOR CH 1/10W 270	1	
R855	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1		R853	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1	
R856	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		R870-73	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	4	
R857	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1						
R858	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	1		T81-G8	VJR0846	TEST POINT	8	
R859	ERJ8GEYG394	M. RESISTOR CH 1/10W 390K	1						
R880	ERJ8GEYG154	M. RESISTOR CH 1/10W 150K	1		TP301	VJR0846	TEST POINT	1	
R881	ERJ8GEYG181	M. RESISTOR CH 1/10W 180	1		TP401	VJR0846	TEST POINT	1	
R882	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		TP402	EYF8CU	TEST POINT	1	
R884, 85	ERJ8GEYG122	M. RESISTOR CH 1/10W 1.2K	2		TP403	VJR0846	TEST POINT	1	
R886	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		TP405	VJR0846	TEST POINT	1	
R887	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		TP451	VJR0846	TEST POINT	1	
R888, 89	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2		TP551-53	VJR0846	TEST POINT	3	
R870	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1		TP651	VJR0846	TEST POINT	1	
R871	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1		TP701	VJR0846	TEST POINT	1	
R872	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		TP751	VJR0846	TEST POINT	1	
R873	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1						
R874	ERJ8GEYF333	M. RESISTOR CH 1/10W 33K	1		VL551	VL00415	COIL	1	
R875	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1						
R876	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	1		VR251	VRV0064B502	V. RESISTOR 5K	1	
R701	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1		VR301	VRV0064B502	V. RESISTOR 5K	1	
R702	ERJ8GEYG882	M. RESISTOR CH 1/10W 8.8K	1		VR351	VRV0112B101	V. RESISTOR 100K	1	
R703	ERJ8GEYG273	M. RESISTOR CH 1/10W 27K	1		VR352	VRV0064B201	V. RESISTOR 200	1	
R704	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	1		VR353, 54	VRV0064B501	V. RESISTOR 500	2	
R705, 06	ERJ8GEYJ471	M. RESISTOR CH 1/10W 470	2		VR408, 07	VRV0064B102	V. RESISTOR 1K	2	
R707, 08	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	2		VR408-10	VRV0064B502	V. RESISTOR 5K	3	
R709	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1		VR458-66	VRV0064B102	V. RESISTOR 1K	8	
R710	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	1		VR551	VRV0064B202	V. RESISTOR 2K	1	
R711	ERJ8GEYF561	M. RESISTOR CH 1/10W 560	1		VR552	VRV0064B502	V. RESISTOR 5K	1	
R712	ERJ8GEYG394	M. RESISTOR CH 1/10W 390K	1		VR551	VRV0064B102	V. RESISTOR 1K	1	
R713	ERJ8GEYJ274	M. RESISTOR CH 1/10W 270K	1		VR652	VRV0064B502	V. RESISTOR 5K	1	
R714	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	1		VR701, 02	VRV0064B102	V. RESISTOR 1K	2	
R715	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1		VR703	VRV0064B502	V. RESISTOR 5K	1	
R717	ERJ8GEYG272	M. RESISTOR CH 1/10W 2.7K	1		VR751, 52	VRV0064B102	V. RESISTOR 1K	2	
R718	ERJ8GEYG122	M. RESISTOR CH 1/10W 1.2K	1		VR753	VRV0064B502	V. RESISTOR 5K	1	
R719	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1						
R720	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1						
R721, 22	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2		X401	VX0270	CRYSTAL OSCILLATOR	1	
R723	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1						
R724	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1						
R725	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1						
R726	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1						
R727, 28	ERJ8GEYF123	M. RESISTOR CH 1/10W 12K	2						
R729	ERJ8GEYG222	M. RESISTOR CH 1/10W 2.2K	1						
R751	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1						
R752	ERJ8GEYG882	M. RESISTOR CH 1/10W 8.8K	1						
R753	ERJ8GEYG273	M. RESISTOR CH 1/10W 27K	1						
R754	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	1						
R755, 56	ERJ8GEYJ471	M. RESISTOR CH 1/10W 470	2						
R757, 58	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	2						
R759	ERJ8GEYG331	M. RESISTOR CH 1/10W 330	1						
R760	ERJ8GEYG152	M. RESISTOR CH 1/10W 1.5K	1						
R761	ERJ8GEYF561	M. RESISTOR CH 1/10W 560	1						
R762	ERJ8GEYG394	M. RESISTOR CH 1/10W 390K	1						
R763	ERJ8GEYJ274	M. RESISTOR CH 1/10W 270K	1						
R764	ERJ8GEYG391	M. RESISTOR CH 1/10W 390	1						
R765	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1						
R767	ERJ8GEYG272	M. RESISTOR CH 1/10W 2.7K	1						
R768	ERJ8GEYG122	M. RESISTOR CH 1/10W 1.2K	1						
R769	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1						
R770	ERJ8GEYG102	M. RESISTOR CH 1/10W 1K	1						
R771, 72	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	2						
R773	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1						
R774	ERJ8GEYG101	M. RESISTOR CH 1/10W 100	1						
R775	ERJ8GEYG103	M. RESISTOR CH 1/10W 10K	1						
R776	ERJ8GEYG105	M. RESISTOR CH 1/10W 1M	1						
R777, 78	ERJ8GEYF123	M. RESISTOR CH 1/10W 12K	2						



## V IN (F6 1/20) CONNECTOR SCHEMATIC DIAGRAM

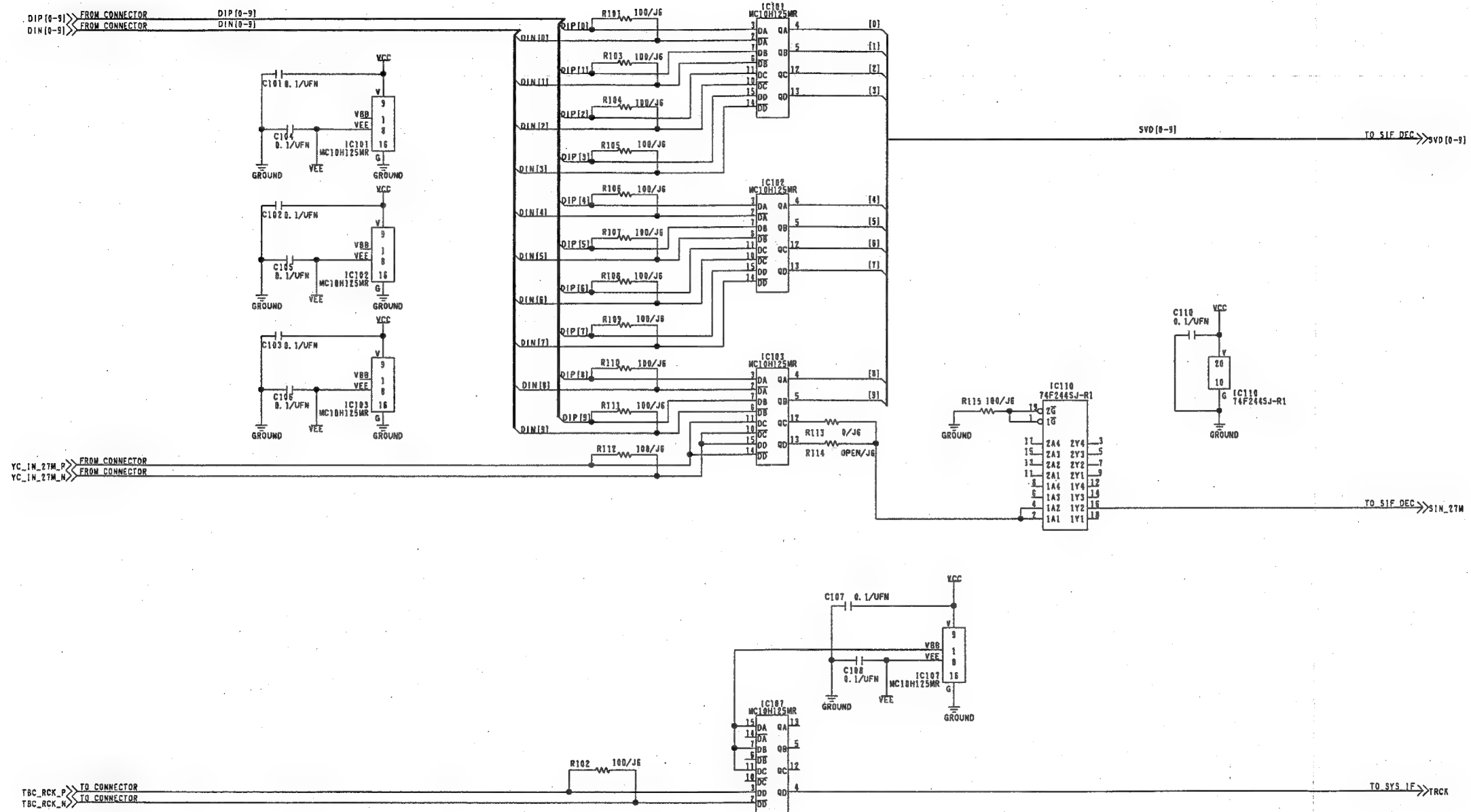


V IN (F6 2/20) POWER SCHEMATIC DIAGRAM

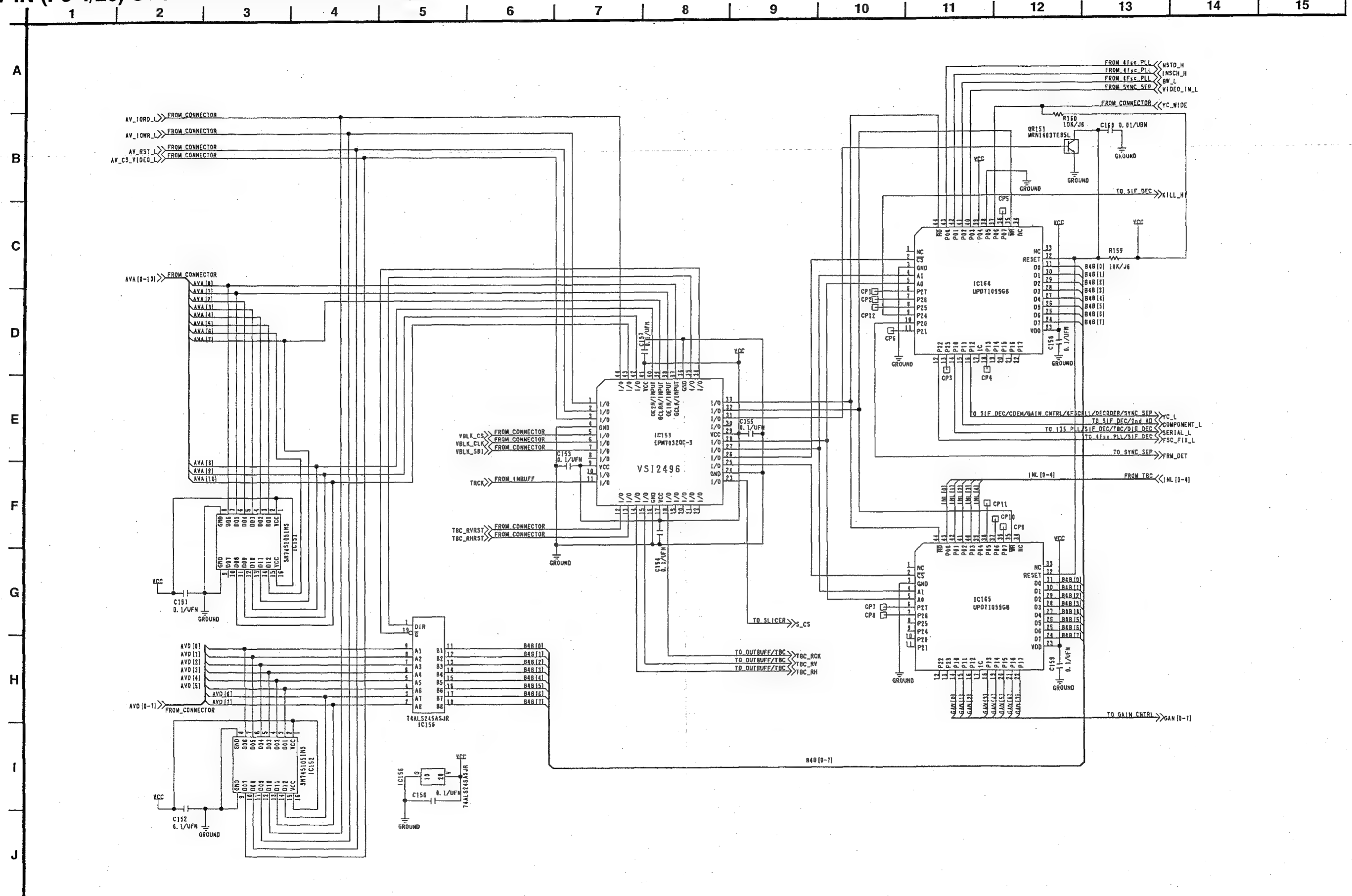




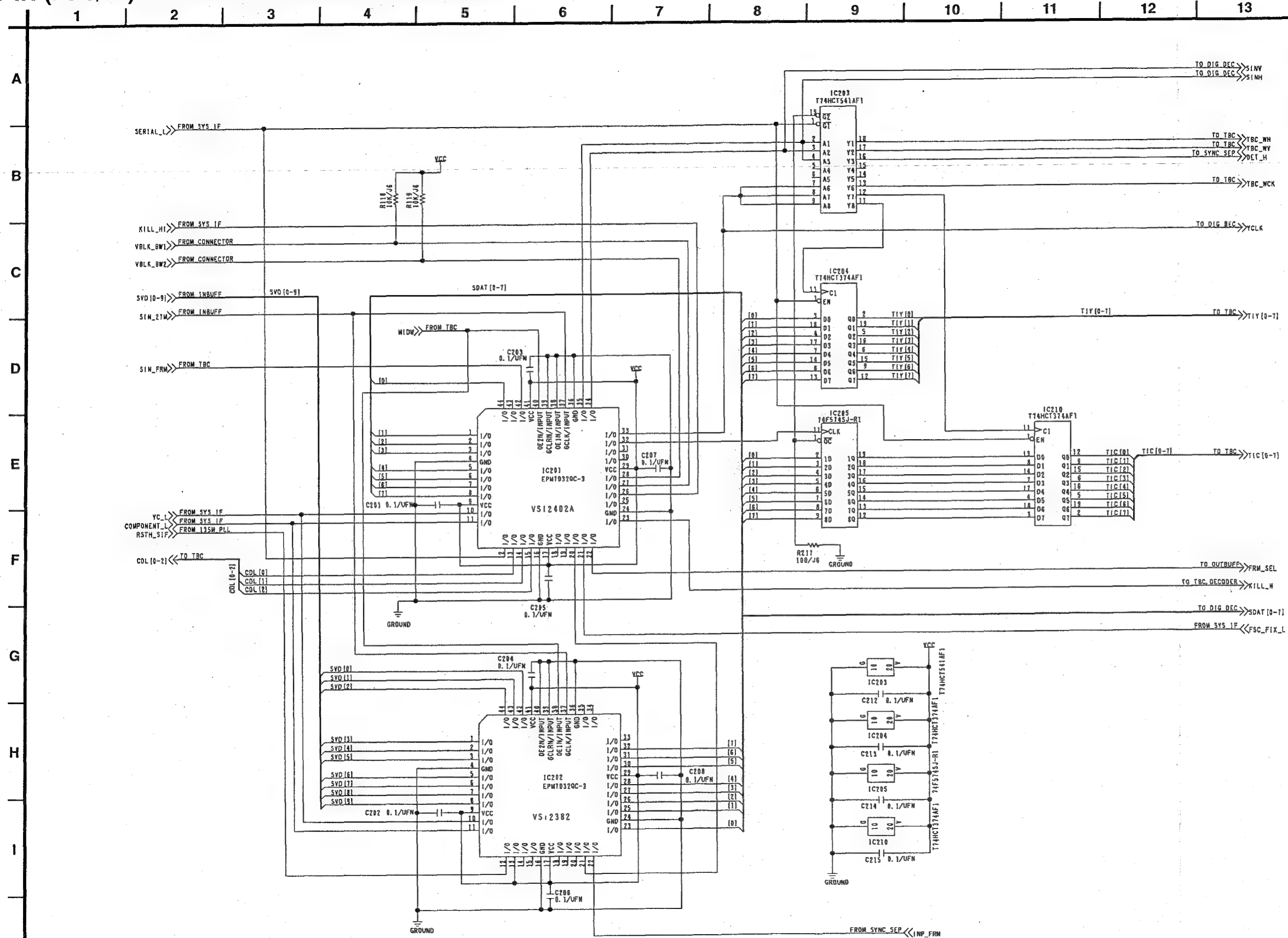
# V IN (F6 3/20) IN BUFF SCHEMATIC DIAGRAM



**V IN (F6 4/20) SYS IF SCHEMATIC DIAGRAM**



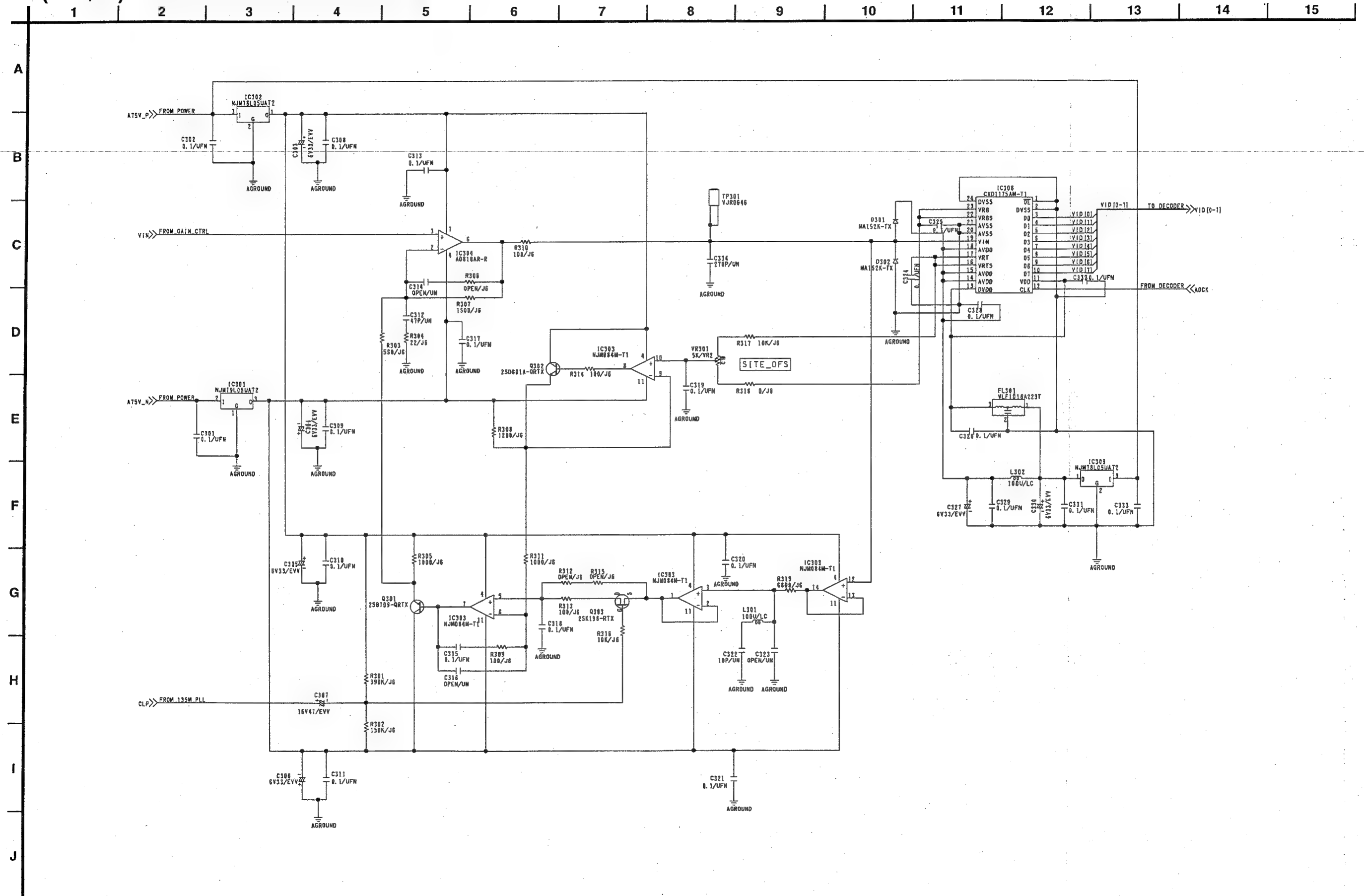
## V IN (F6 5/20) SIF DEC SCHEMATIC DIAGRAM



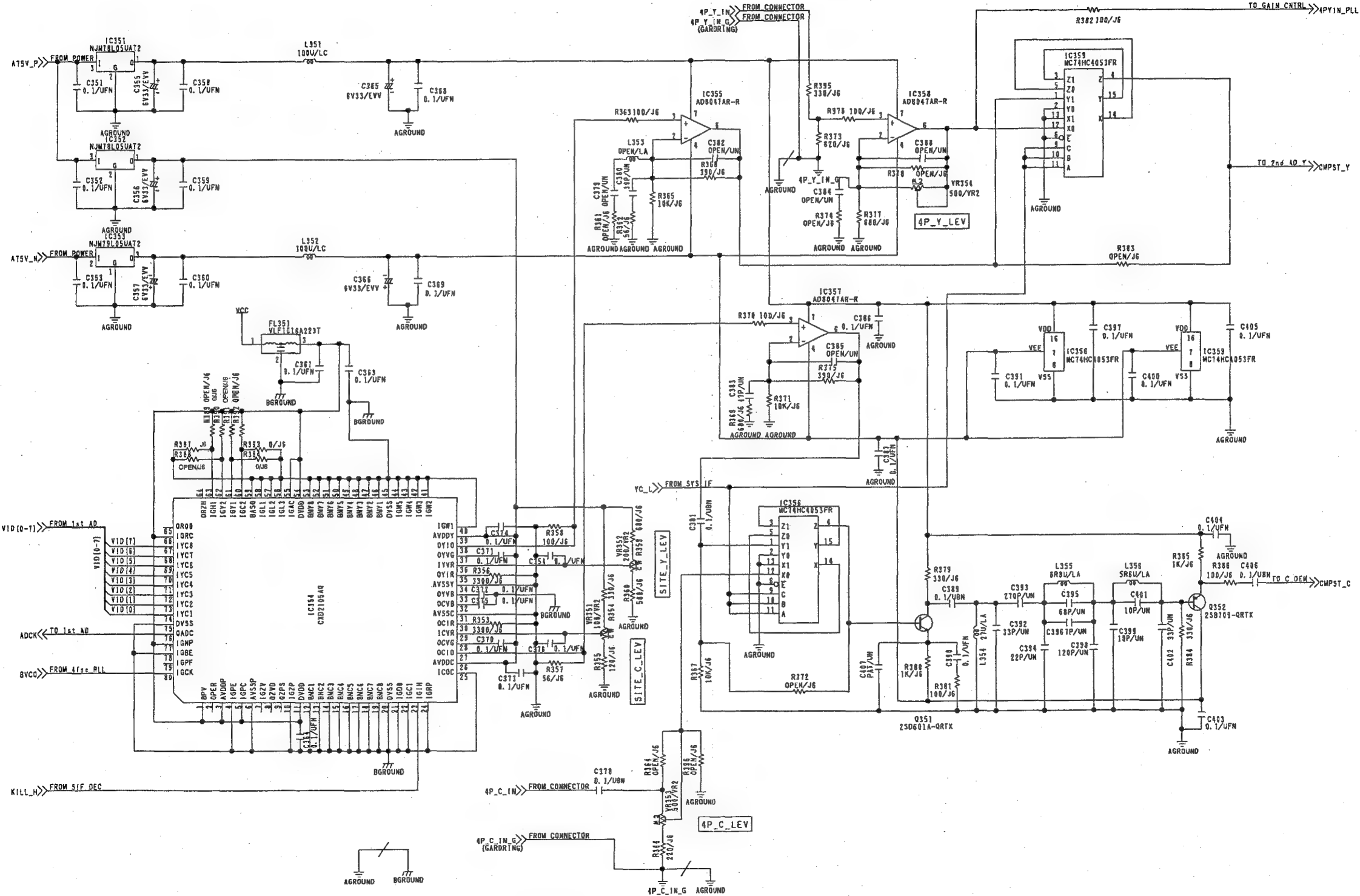
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
--	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----



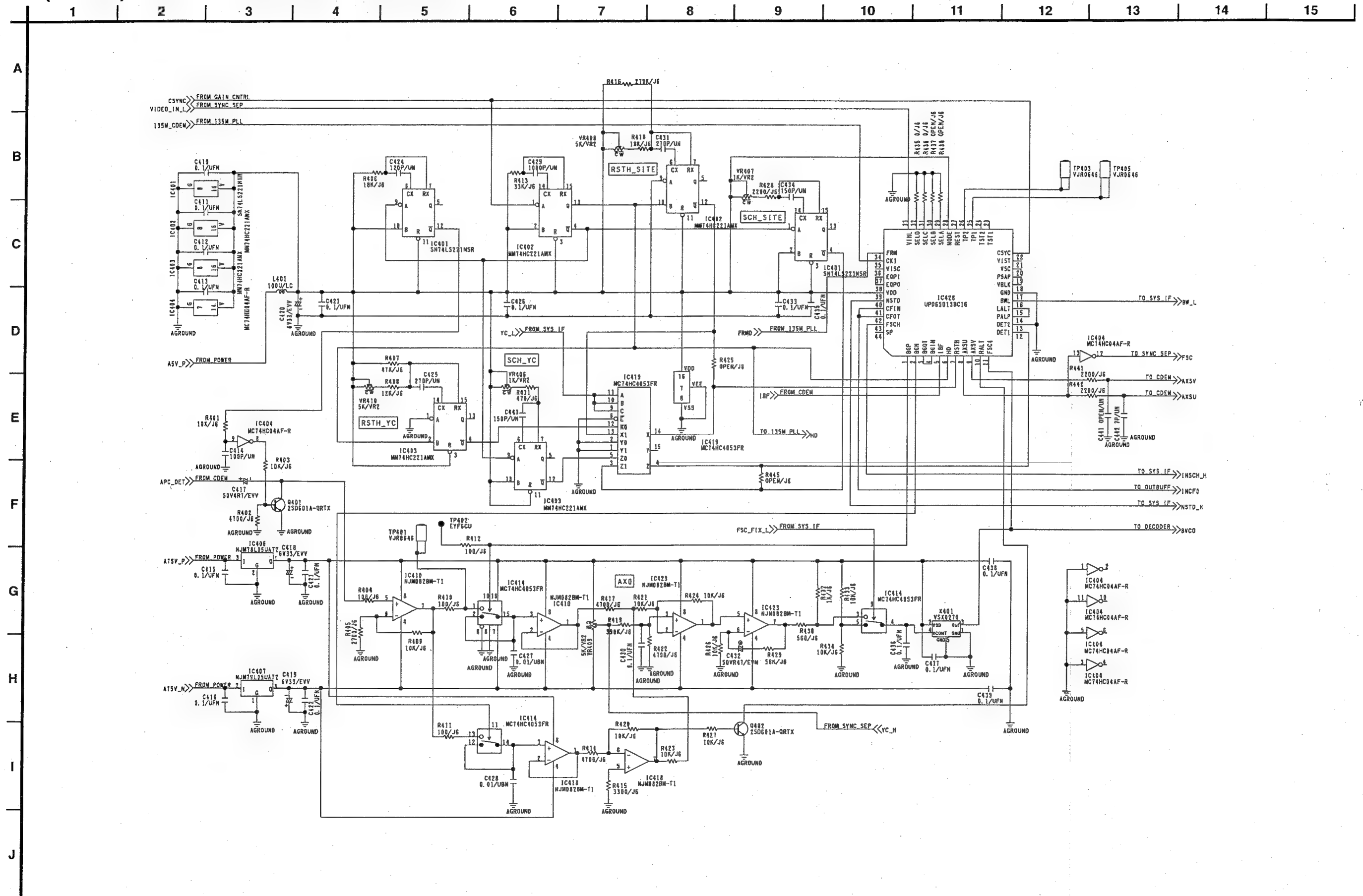
# V IN (F6 7/20) 1st AD SCHEMATIC DIAGRAM



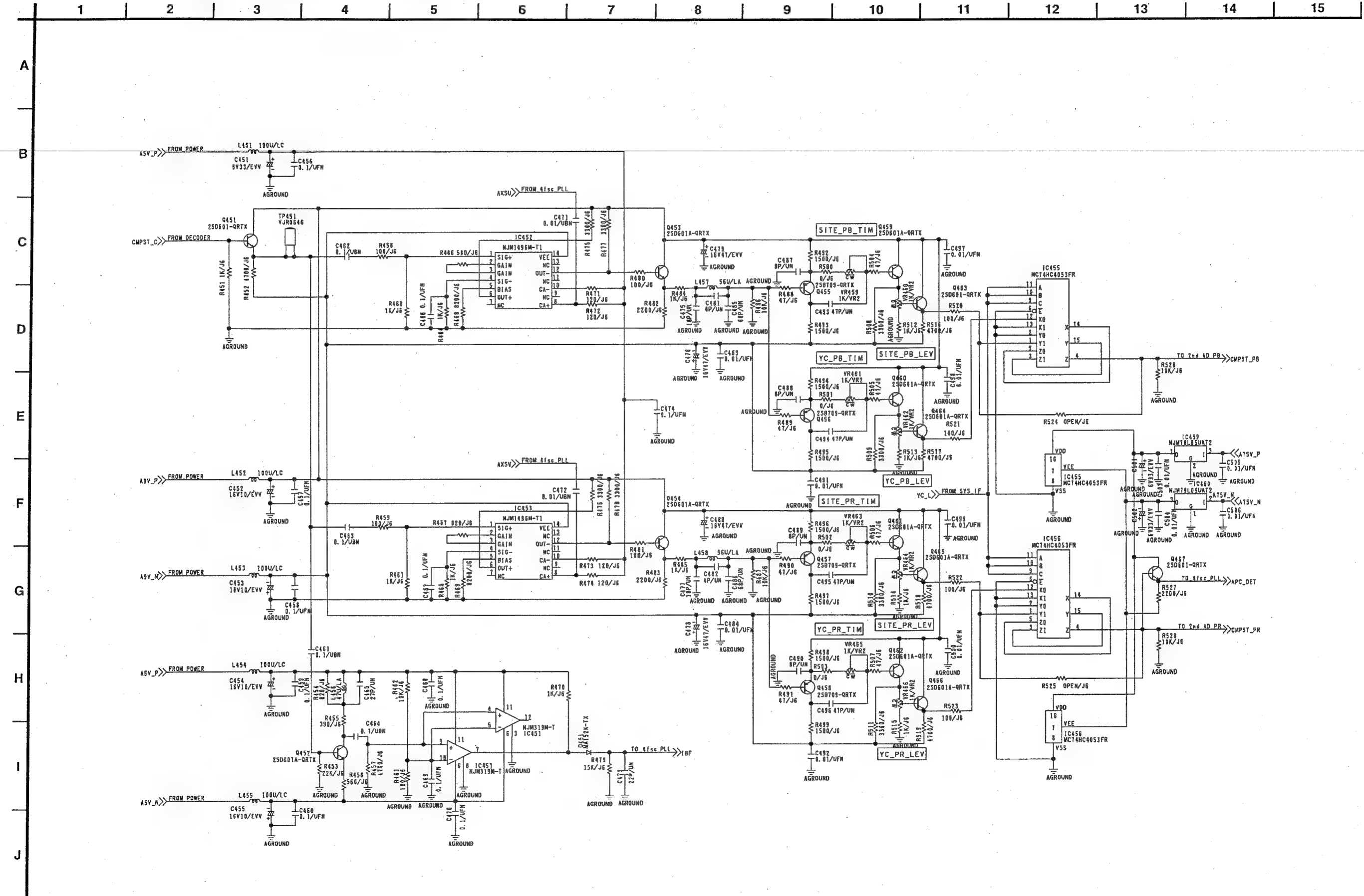
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----



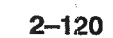
# V IN (F6 9/20) 4fsc PLL SCHEMATIC DIAGRAM



V IN (F6 10/20) CDEM SCHEMATIC DIAGRAM



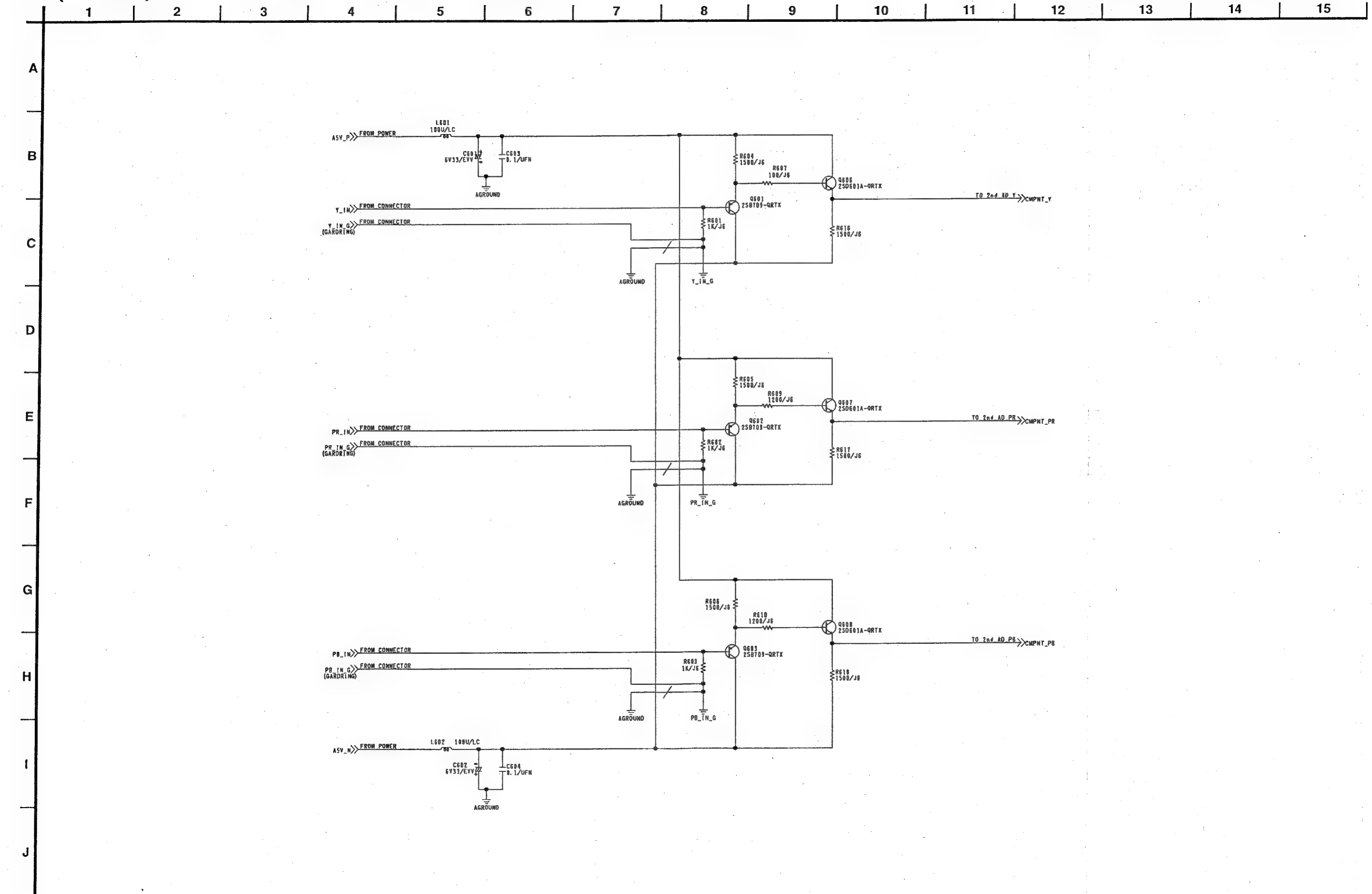




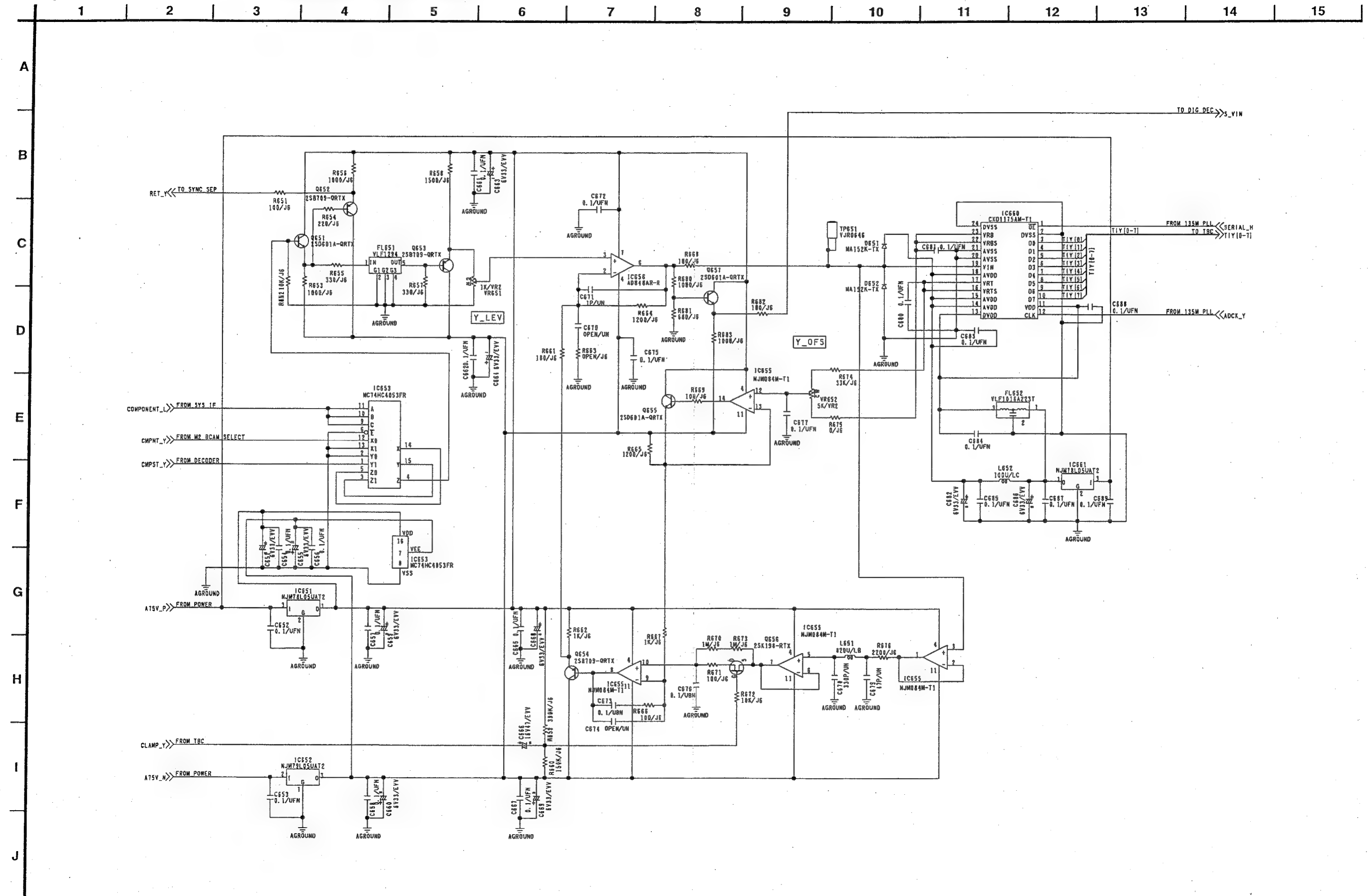
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----

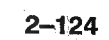


# V IN (F6 13/20) M2 BCAM SELECT SCHEMATIC DIAGRAM

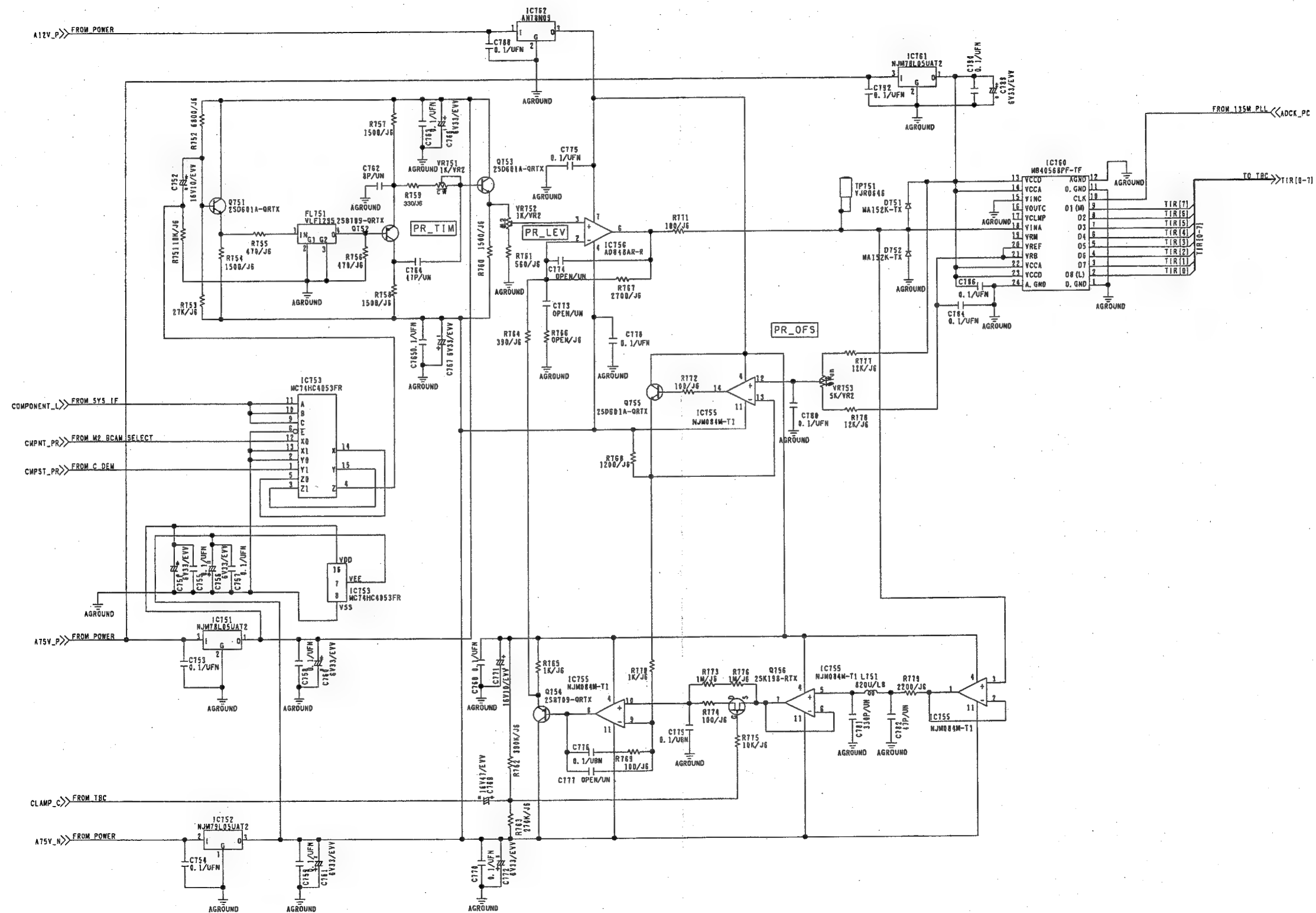


# V IN (F6 14/20) 2nd AD Y SCHEMATIC DIAGRAM

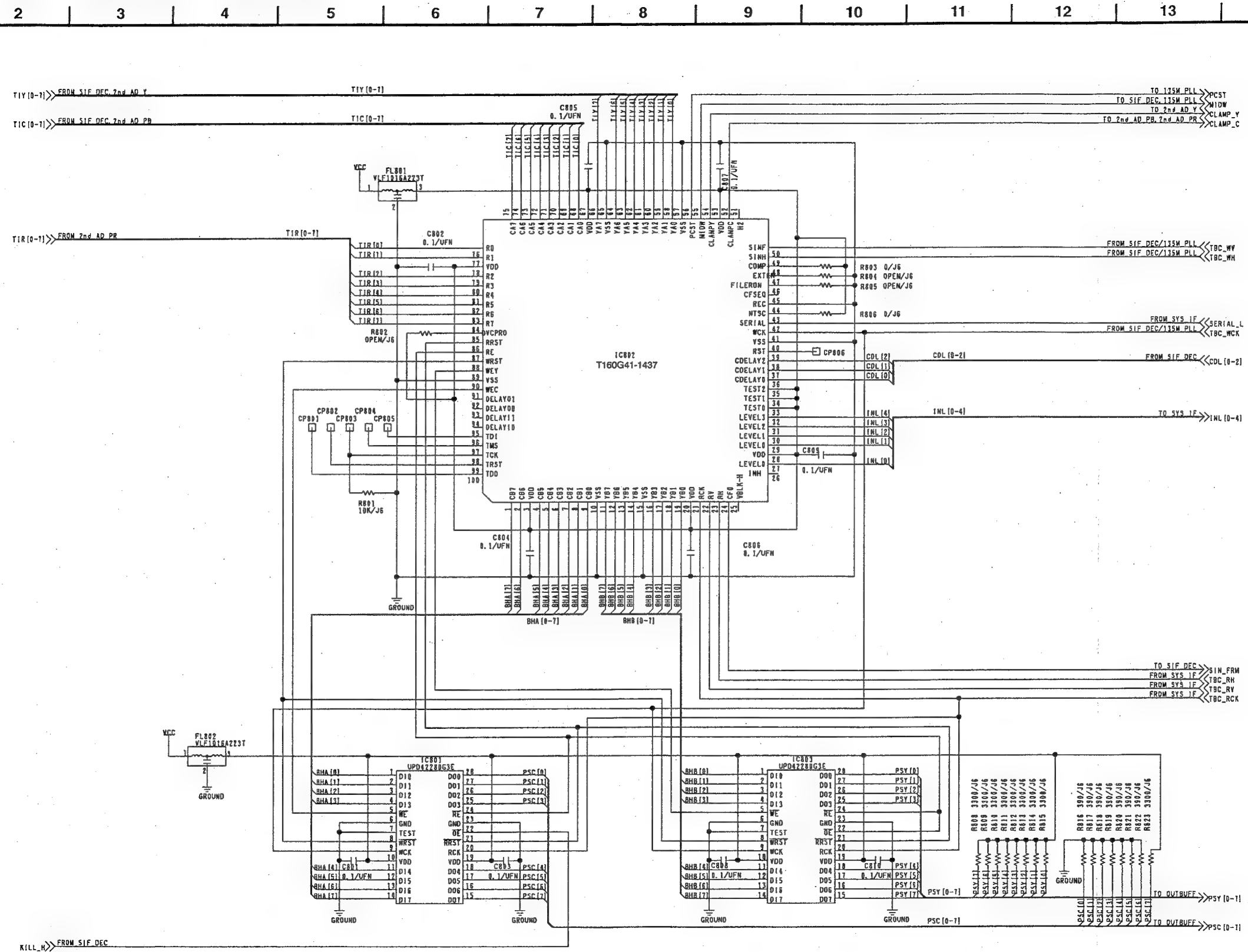




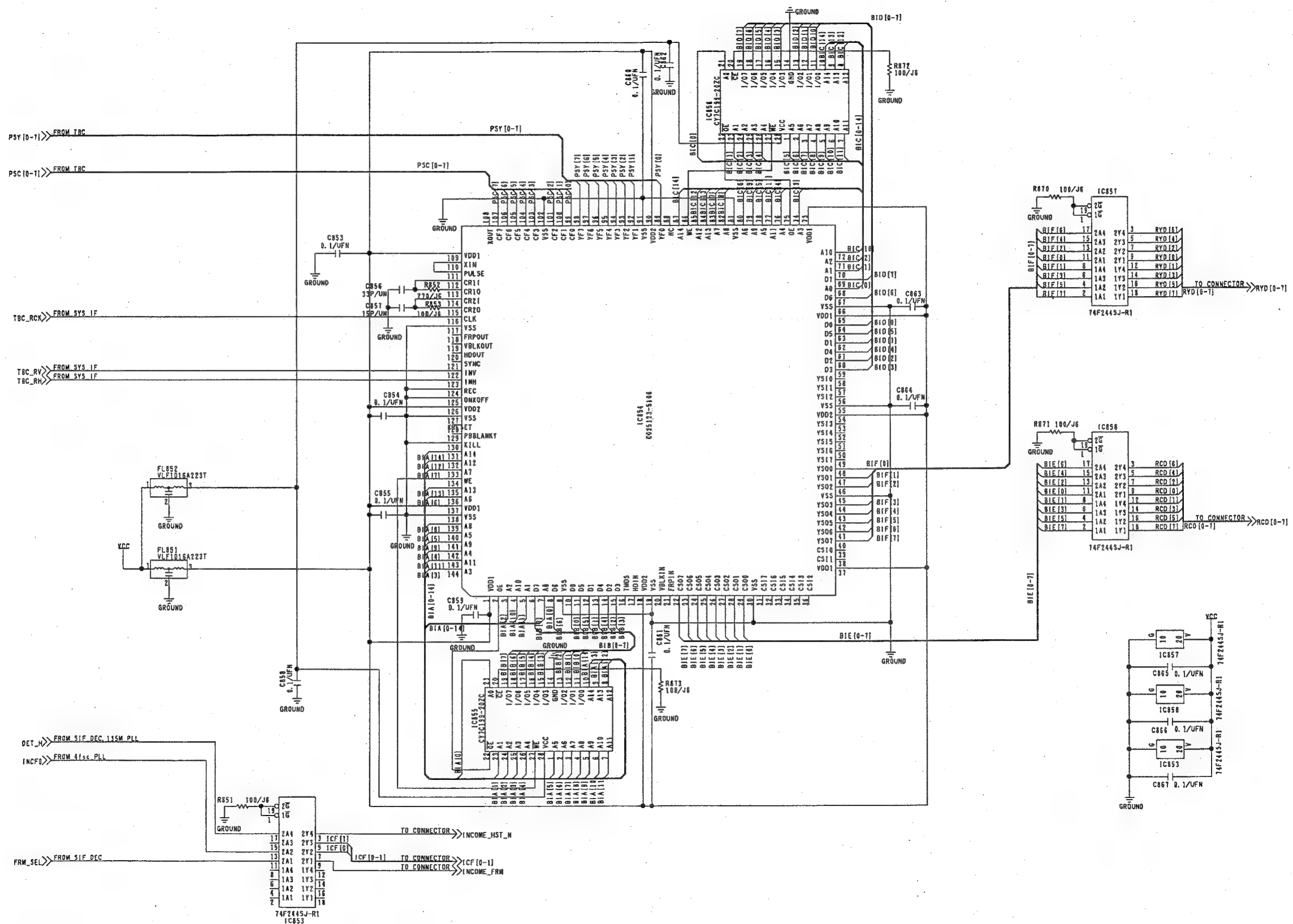
# V IN (F6 16/20) 2nd AD PR SCHEMATIC DIAGRAM



### V IN (F6 17/20) TBC SCHEMATIC DIAGRAM

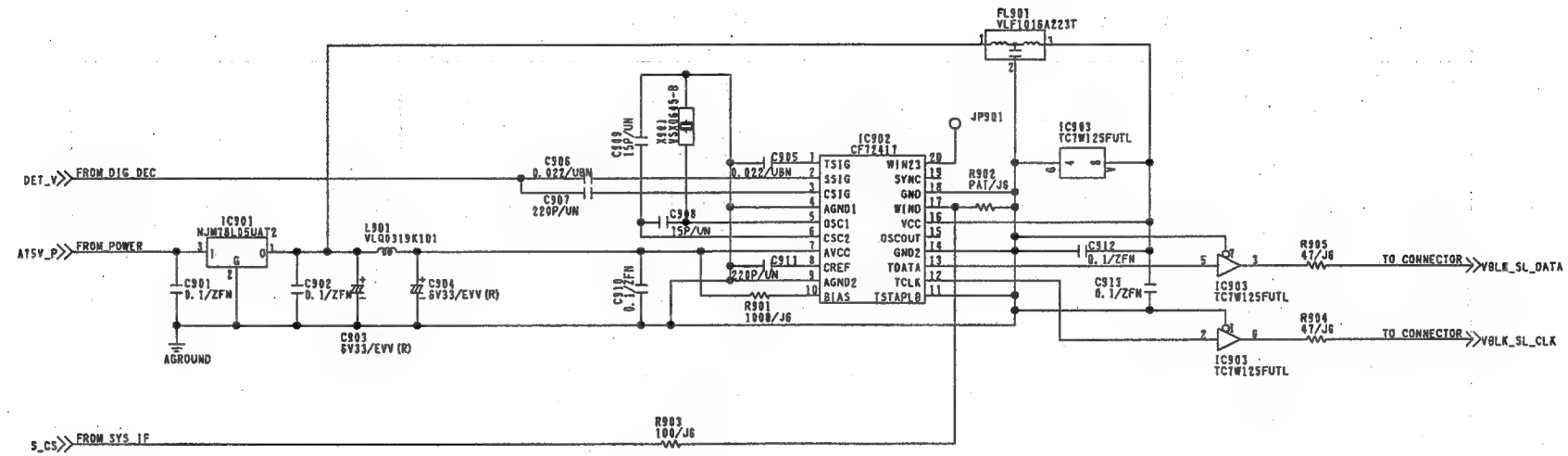


# V IN (F6 18/20) OUT BUFF SCHEMATIC DIAGRAM

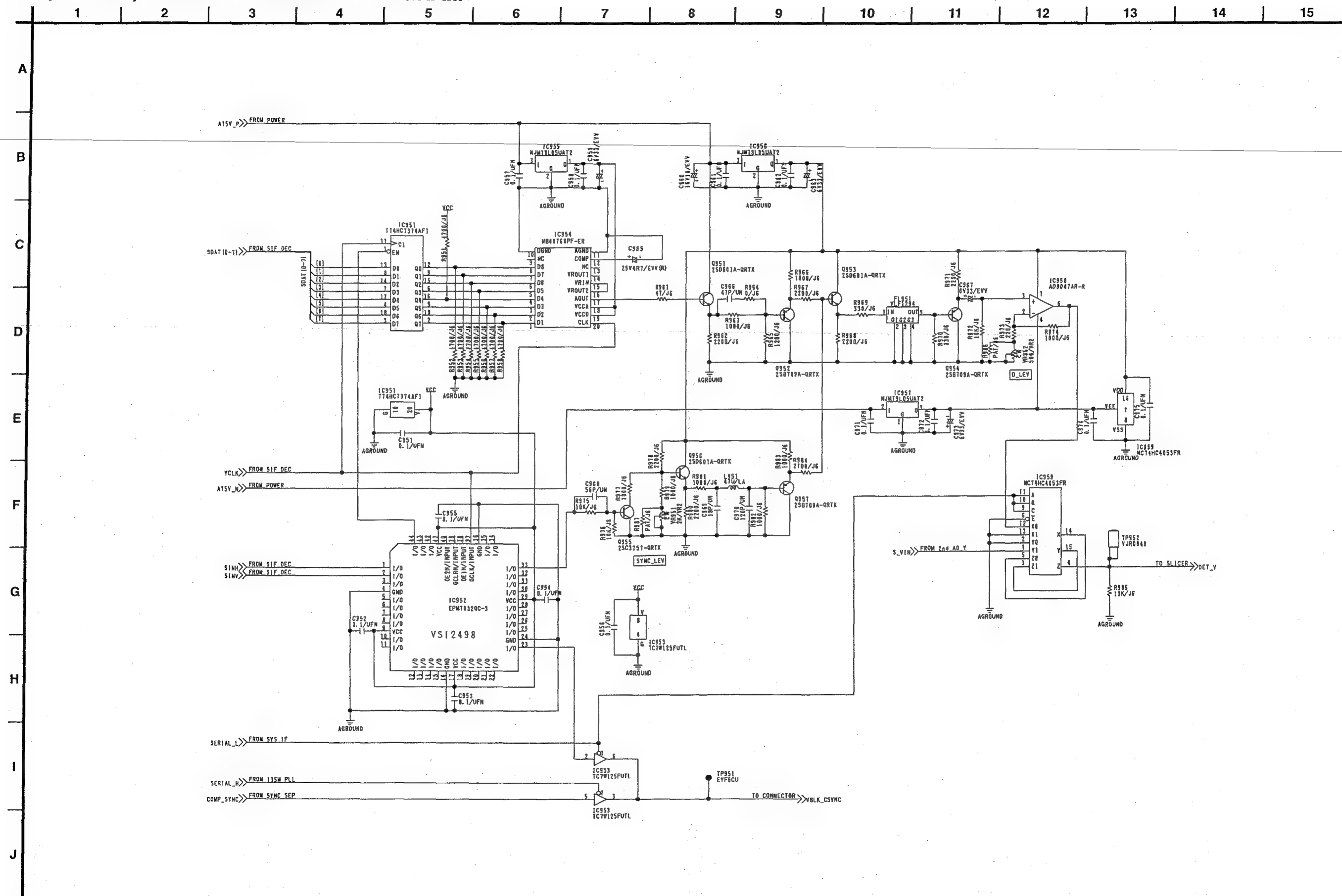




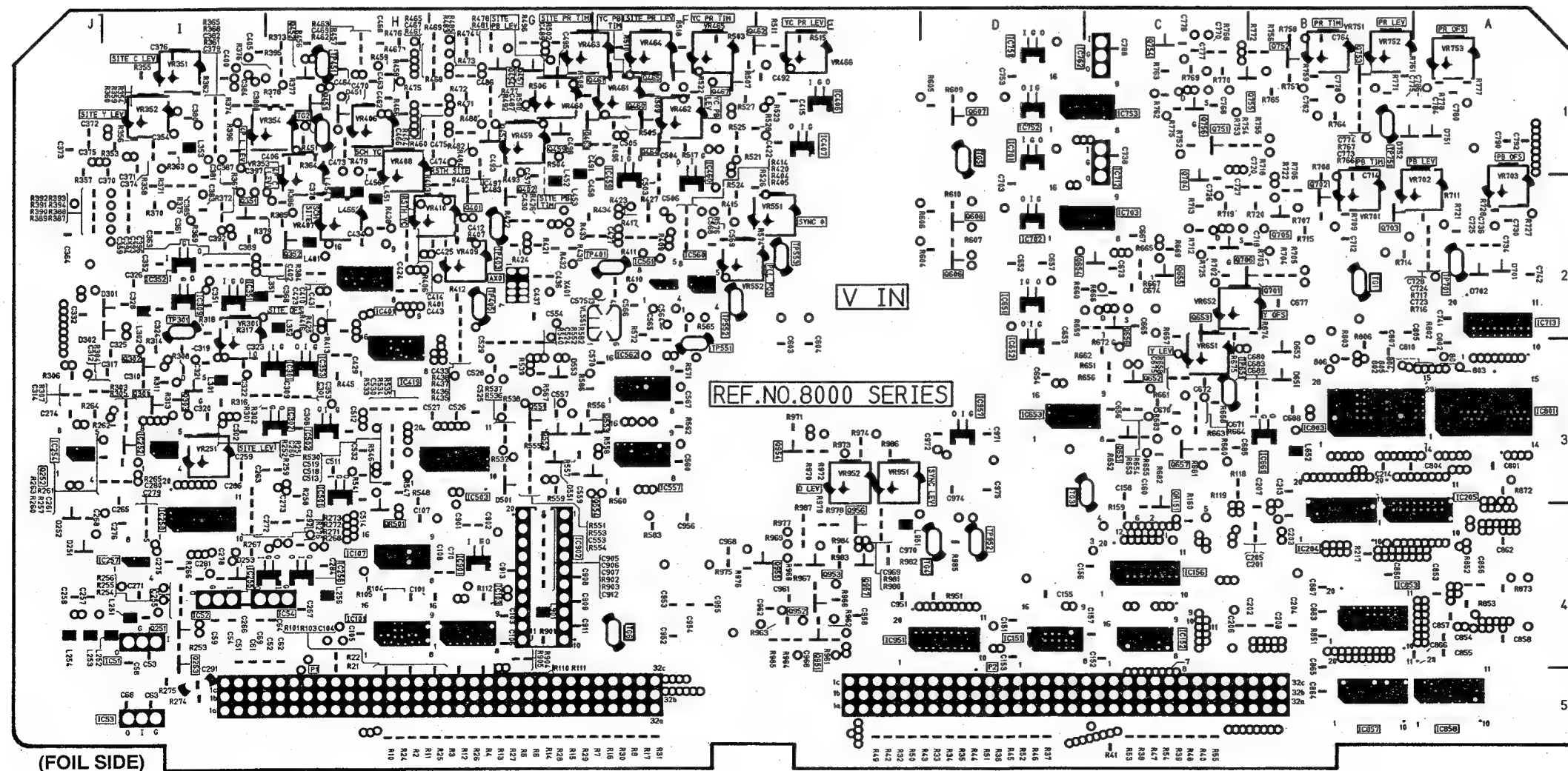
# V IN (F6 19/20) SLICER SCHEMATIC DIAGRAM



# V IN (F6 20/20) DIG DEC SCHEMATIC DIAGRAM

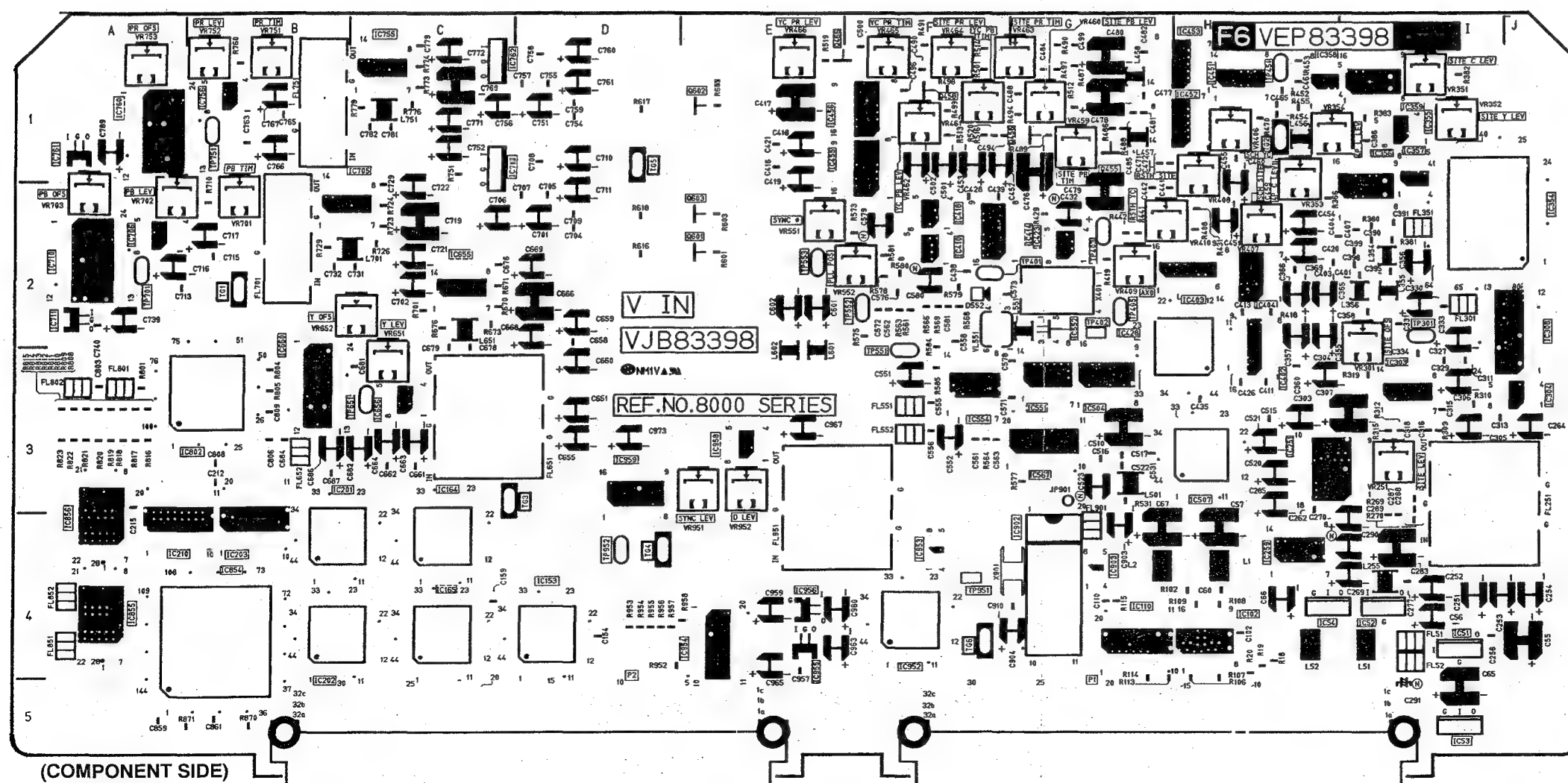
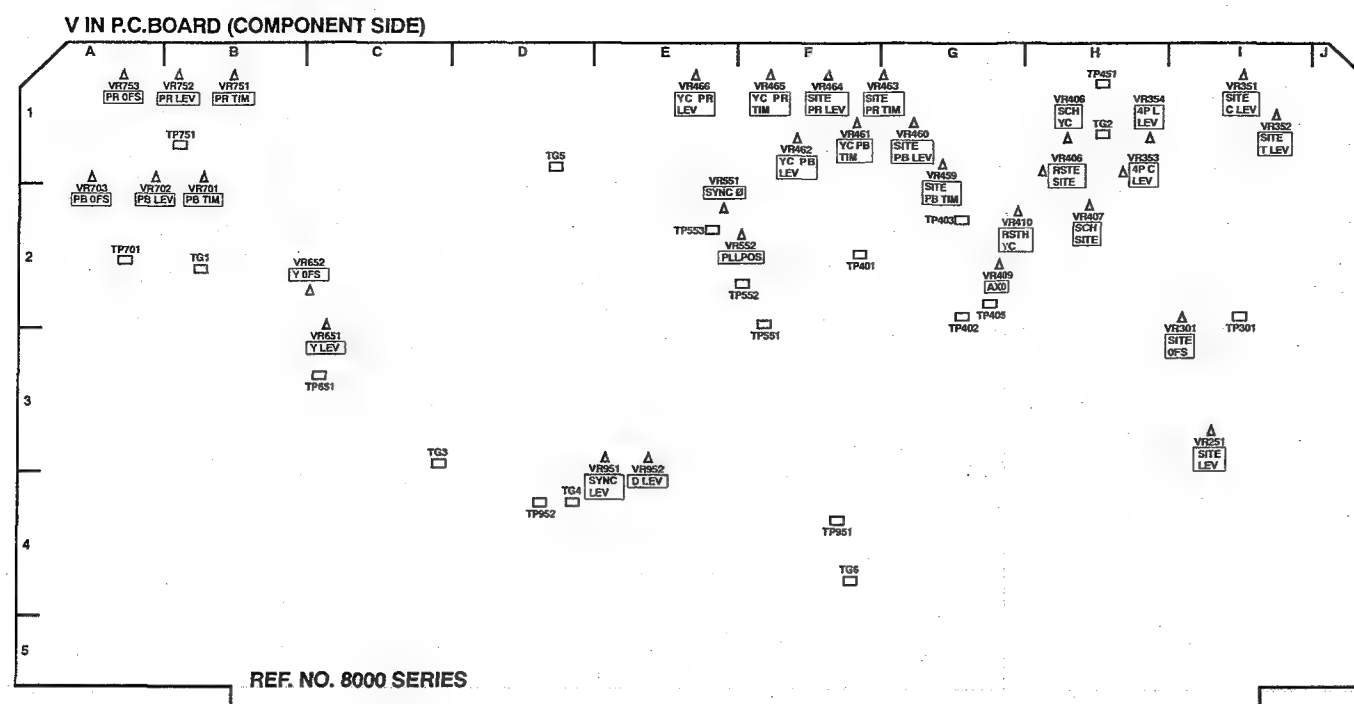


# F6 V IN P.C. BOARD (VEP83398A)



(FOIL SIDE)

V IN (FOIL SIDE)			
Transistors		IC407	E-1
Q251	I-4	IC419 <th>H-3</th>	H-3
Q252	I-3	IC459 <th>F-2</th>	F-2
Q252	I-4	IC460 <th>F-2</th>	F-2
Q301	I-3	IC501 <th>H-3</th>	H-3
Q302	I-3	IC502 <th>H-3</th>	H-3
Q303	I-3	IC503 <th>G-3</th>	G-3
Q351	I-2	IC557 <th>F-3</th>	F-3
Q352	H-2	IC560 <th>F-2</th>	F-2
Q401	G-2	IC561 <th>F-2</th>	F-2
Q402	G-2	IC562 <th>F-3</th>	F-3
Q451	H-1	IC651 <th>D-2</th>	D-2
Q452	H-1	IC652 <th>D-3</th>	D-3
Q453	G-1	IC653 <th>D-3</th>	D-3
Q454	G-1	IC661 <th>B-3</th>	B-3
Q457	G-1	IC701 <th>D-1</th>	D-1
Q459	G-1	IC702 <th>D-2</th>	D-2
Q460	F-1	IC703 <th>C-2</th>	C-2
Q461	F-1	IC712 <th>C-1</th>	C-1
Q462	F-1	IC713 <th>A-2</th>	A-2
Q463	F-1	IC751 <th>D-1</th>	D-1
Q464	F-1	IC752 <th>D-1</th>	D-1
Q465	F-1	IC753 <th>C-1</th>	C-1
Q467	F-1	IC762 <th>C-1</th>	C-1
Q551	G-3	IC801 <th>A-3</th>	A-3
Q552	G-3	IC803 <th>B-3</th>	B-3
Q553	G-3	IC853 <th>B-4</th>	B-4
Q554	F-3	IC857 <th>B-5</th>	B-5
Q606	D-2	IC858 <th>A-5</th>	A-5
Q607	D-1	IC901 <th>G-4</th>	G-4
Q608	D-2	IC902 <th>G-4</th>	G-4
Q651	C-3	IC951 <th>D-4</th>	D-4
Q652	C-3	IC957 <th>D-3</th>	D-3
Q653	C-2	Test Points	
Q654	C-2	TG1	B-2
Q655	C-2	TG2	H-1
Q656	C-2	TG3	C-3
Q657	C-3	TG4	D-4
Q701	B-2	TG5	D-1
Q702	B-2	TG6	F-4
Q703	B-2	TP301	I-2
Q704	C-2	TP401	F-2
Q705	B-2	TP403	G-2
Q706	C-2	TP405	G-2
Q751	C-1	TP451	H-1
Q752	B-1	TP551	F-3
Q753	B-1	TP552	F-2
Q754	C-1	TP553	E-2
Q755	C-1	TP651	C-3
Q756	C-1	TP701	A-2
Q851	E-4	TP751	B-1
Q852	E-4	TP952	D-4
Q853	E-4	Adjustments	
Q854	E-3	VR251	I-3
Q855	E-4	VR301	I-2
Q856	E-4	VR351	I-1
Q857	E-4	VR352	I-1
Transistors & Resistors		VR353	H-1
QR151	C-4	VR354	H-1
QR501	H-4	VR406	H-1
Integrated Circuits		VR407	H-2
IC51	I-4	VR408	H-1
IC52	I-4	VR409	G-2
IC53	I-5	VR410	G-2
IC54	H-4	VR459	G-1
IC101	H-4	VR460	G-1
IC103	G-4	VR462	F-1
IC107	H-4	VR463	G-1
IC151	D-4	VR464	F-1
IC152	C-4	VR465	F-1
IC156	C-4	VR466	E-1
IC204	B-4	VR551	E-2
IC205	A-4	VR552	F-2
IC252	I-3	VR651	C-3
IC254	J-3	VR652	C-2
IC255	H-4	VR701	B-2
IC256	H-4	VR702	A-2
IC257	I-4	VR703	A-2
IC258	I-4	VR751	B-1
IC301	H-3	VR752	B-1
IC302	H-3	VR753	A-1
IC309	I-2	VR951	E-3
IC351	I-2	VR952	E-3
IC352	I-2	Connectors	
IC353	H-3	P1	H-5
IC401	H-2	P2	D-5
IC406	E-1		



# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Standardization of ICs

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	118	VSD9606M502A/B	L7TRB0001
AJ-D650E	92	VSD9612MJ01A/B	L7TRA0001
AJ-D640E	92	VSD9612MJ01A/B	L7TRA0001

Board : Servo (F1:VEP82105B)  
 V OUT (F4:VEP83221B) – AJ-D750  
 CUE (H2:VEP84182A) – AJ-D750  
 RF AMP (H4:VEP85049A)

#### Reason for Change

- ☐ The following part(s) has (have) been changed for serviceability improvement.  
☐ The following part(s) has (have) been changed for productivity improvement.  
☒ The following part(s) has (have) been changed for standardization.  
☐ The following part(s) has (have) been changed for the safety regulation.

#### F1 Servo Board (VEP82105B) – AJ-D750/D650/D640

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC70	MC74HC86F	MC74HC86AF	IC	1	
IC266	MC74HC164F	MC74HC164AF	IC	1	
IC269	MC74HC86F	MC74HC86AF	IC	1	

#### AJ-D750

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC70	2-14	C-10 (3/19)	3-3	E-1 (F)
IC266	2-20	I-6 (9/19)	3-3	G-3 (F)
IC269	2-20	K-11~14 (9/19)	3-3	F-3 (F)

#### AJ-D650/D640

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC70	2-14	E~F-8 (3/19)	3-3	E-1 (F)
IC266	2-20	B-4 (9/19)	3-3	G-3 (F)
IC269	2-20	A-7~8 (9/19)	3-3	F-3 (F)

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#### F4 V OUT Board (VEP83221B) – AJ-D750

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC8162	MC74HC86F	MC74HC86AF	IC	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC8162	2-64	B-16 (10/30)	3-6	C-2 (C)

#### H2 CUE Board (VEP84182A) – AJ-D750

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC4354, 55	MC74HC164F	MC74HC164AF	IC	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC4354	2-164	G-H-5 (6/6)	3-11	B-3 (F)
IC4355	2-164	G-H-6 (6/6)	3-11	B-3 (F)

#### H4 RF AMP Board (VEP85049A) – AJ-D750/D650/D640

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC5005	MC74HC86F	MC74HC86AF	IC	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC5005	2-174	B-2 (1/5)	3-13	C-2 (C)

#### AJ-D650/D640

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC5005	2-136	F-2 (1/5)	3-11	C-2 (C)

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Sample and Hold IC Output

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	122	VSD9606M502A/B	C8TRB0001
AJ-D650E ✓	95	VSD9612MJ01A/B	C8TRA0001
AJ-D640E ✓	95	VSD9612MJ01A/B	C8TRA0001

Board : Servo (F1:VEP82105B)

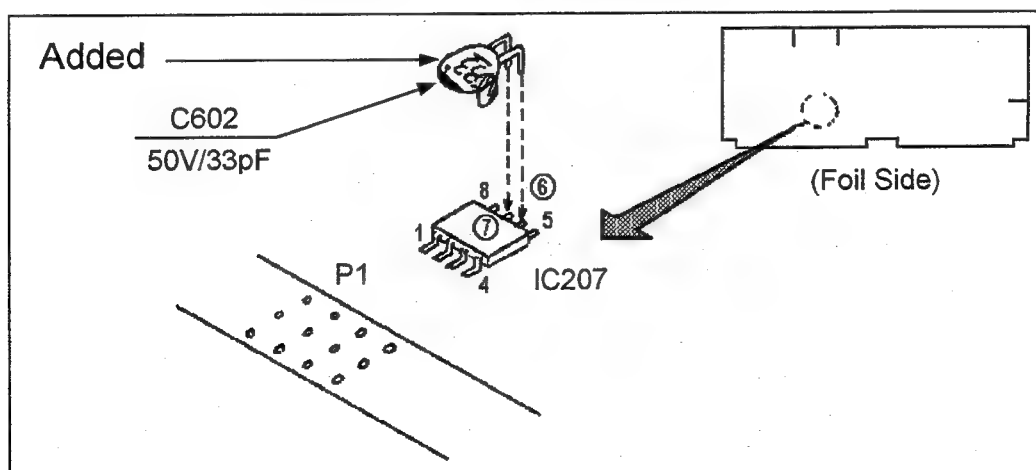
Symptom : CTL playback amplitude may be low.

Cause : Due to the noise by the DC shift at the sample and hold IC output for D/A Conversion.

Remedy : To prevent it, the following modification is performed.

- 1). Capacitor C602 (50V/33pF) is added between pins #6 and #7 of IC207 on the foil side as shown in figure 1.
- 2). After this modification, the following Adjustments are required.
  - 1-1. Motor Torque Offset Adjustment
  - 5-2. PLL Lock Adjustment (PB)
  - 5-10. PLL Lock Adjustment (R/P Head)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C602	—	ECCF1H330JC	C. CAPACITOR 50V 33P	0→1	



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V18445V  
V18446

Order No. VSD9804SC637

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Improvement of SDI Output Format**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	96	VSD9612MJ01A/B	C8TRA0001
AJ-D640E	96	VSD9612MJ01A/B	C8TRA0001

Board : V OUT (F4:VEP83352B)

Symptom : H shift may occur at the SW OUT when the SDI output signal is through the Digital Switcher TD-220.

Cause : Lower 2 bits of SAV/EAV is not fixed to "00".

Remedy : To improve it, the PLD IC700 is changed from VSI2500A to VSI2500B.

**\* Note \***  
This modification is only required for the following P.C. Board.  
VJB83352-2 / VEP83352B-1, B-2

This modification is only for  
VJB83352-2 / VEP83352B-1, B-2

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.		1	Checksum : 00248A64
IC700	VSI2500A	VSI2500B	IC		

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC700	2-53	C~E-4~7 (9/16)	3-5	A-4 (C)

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Picture Disturbance

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/ENV17725 + V17727	123	VSD9606M502A/B	D8TRB0001
AJ-D650E V18115 + V18116	97	VSD9612MJ01A/B	D8TRA0001
AJ-D640E    "      "	97	VSD9612MJ01A/B	D8TRA0001

Board : V IN (F6:VEP83341A) - AJ-D750  
 V IN (F6:VEP83355B) - AJ-D650/D640  
 VJN (F6:VEP83398A) - AJ-D750/D650/D640

Symptom : Upper side of the picture may be disturbed when the noisy signal is input.

Cause : When the noisy signal is input, SYNC SEPA circuit of the Video Input may malfunction. It causes the 13.5MHz PLL unlock. It results in picture disturbance.

Remedy : To improve the picture, margin for the noise on the video input is increased.

1. P.C. Board version is VEP83341A (for AJ-D750) and VEP83355B (for AJ-D650/D640)
  - 1). Delete resistor R532 (1/10W, 2.2K $\Omega$ ) from the component side as shown in figures 1 and 4.
  - 2). Delete resistors R267 and R533 (1/10W, 2.2K $\Omega$ ) and R268 (1/10W, 220 $\Omega$ ) from the foil side as shown in figures 2, 3, 4 and 5.
  - 3). Float the leg of pin # 8 of IC258 and IC503 on the foil side as shown in figures 2, 3, 4 and 5.
  - 4). Add a resistor R277 (1/4W, 3.9K $\Omega$ ) between pin #10 of IC258 and cathode of D253 on the foil side as shown in figures 3 and 5.
  - 5). Add a resistor R542 (1/4W, 3.9K $\Omega$ ) between pin #10 of IC503 and cathode of D501 on the foil side as shown in figures 2 and 4.
  - 6). Add a resistor R543 (1/4W, 150K $\Omega$ ) between pins #10 and #14 of IC503 on the foil side as shown in figures 2 and 4.
  - 7). Connect a jumper wire between pins #2 and #6 of IC258 on the foil side as shown in figures 3 and 5.
  - 8). Connect a jumper wire between pins #2 and #6 of IC503 on the foil side as shown in figures 2 and 4.
2. P.C. Board version is VEP83398A which produced before Serial Number D8TRB..... / D8TRA.....
  - 1). Delete resistors R267, R532 and R533 (1/10W, 2.2K $\Omega$ ) and R268 (1/10W, 220 $\Omega$ ) from the foil side as shown in figures 3, 4, 5, and 6.
  - 2). Float the leg of pin # 8 of IC258 and IC503 on the foil side as shown in figures 3, 4, 5, and 6.
  - 3). Add a resistor R277 (1/4W, 3.9K $\Omega$ ) between pin #10 of IC258 and cathode of D253 on the foil side as shown in figures 3 and 5.

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- 4). Add a resistor R542 (1/4W, 3.9K $\Omega$ ) between pin #10 of IC503 and cathode of D501 on the foil side as shown in figures 4 and 6.
- 5). Add a resistor R543 (1/4W, 150K $\Omega$ ) between pins #10 and #14 of IC503 on the foil side as shown in figures 4 and 6.
- 6). Connect a jumper wire between pins #2 and #6 of IC258 on the foil side as shown in figures 3 and 5.
- 7). Connect a jumper wire between pins #2 and #6 of IC503 on the foil side as shown in figures 4 and 6.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R267	ERJ6GEYJ222	---	M. RESISTOR CH 1/10W 2.2K	1→0	
R268	ERJ6GEYJ221	---	M. RESISTOR CH 1/10W 220	1→0	
R277	---	ERDS2TJ392	C. RESISTOR 1/4W 3.9K	0→1	
R532, 533	ERJ6GEYJ222	---	M. RESISTOR CH 1/10W 2.2K	2→0	
R542	---	ERDS2TJ392	C. RESISTOR 1/4W 3.9K	0→1	
R543	---	ERDS2TJ154	C. RESISTOR 1/4W 150K	0→1	

**3. P.C. Board version is VEP83398A which produced after Serial Number D8TRB..... / D8TRA.....**

- 1). Float the legs of pin #8 of IC258 and IC503 and then cut them on the foil side as shown in figures 3, 4, and 7.
- 2). Add a resistor R277 (1/4W, 3.9K $\Omega$ ) between pin #10 of IC258 and cathode of D253 on the foil side as shown in figures 3 and 8.
- 3). Connect a jumper wire between pins #2 and #6 of IC258 on the foil side as shown in figures 3 and 8.
- 4). Add a resistor R542 (1/4W, 3.9K $\Omega$ ) between pin #10 of IC503 and cathode of D501 on the foil side as shown in figures 4 and 9.
- 5). Connect a jumper wire between pins #2 and #6 of IC503 on the foil side as shown in figures 4 and 9.
- 6). Capacitors C290 and C523 (50V/0.1 $\mu$ F) and resistors R267, R532, and R533 (1/10W, 2.2K $\Omega$ ) and R268 (1/10W, 220 $\Omega$ ) are not installed.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C290	ECEV1HN010Q	---	E. CAPACITOR CH 50V 1U	1→0	
C523	ECEV1HN010Q	---	E. CAPACITOR CH 50V 1U	1→0	
R267	ERJ6GEYJ222	---	M. RESISTOR CH 1/10W 2.2K	1→0	
R268	ERJ6GEYJ221	---	M. RESISTOR CH 1/10W 220	1→0	
R277	---	ERDS2TJ392	C. RESISTOR 1/4W 3.9K	0→1	
R532, 533	ERJ6GEYJ222	---	M. RESISTOR CH 1/10W 2.2K	2→0	
R542	---	ERDS2TJ392	C. RESISTOR 1/4W 3.9K	0→1	

**F6 V IN P.C. Board (VEP83341A/VEP83355B)**

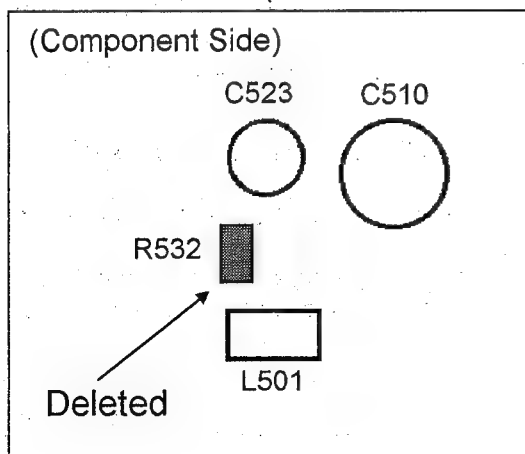


Fig. 1 Page 3-7 (G-3)

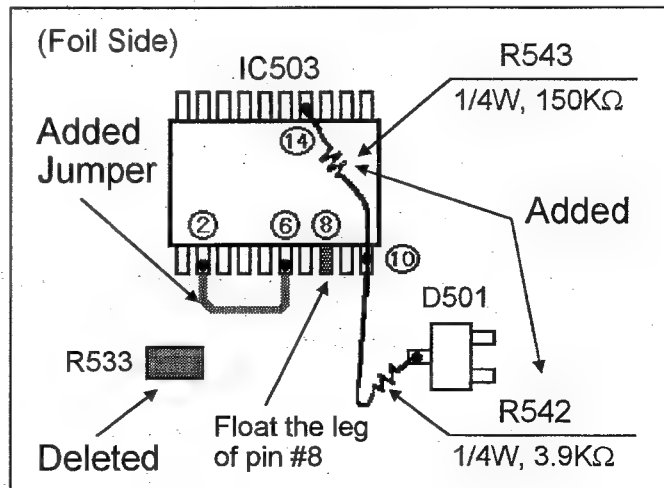


Fig. 2 Page 3-7 (G-3)

F6 V IN (6/18) Schematic Diagram (VEP83341A/VEP83355B/VEP83398A)

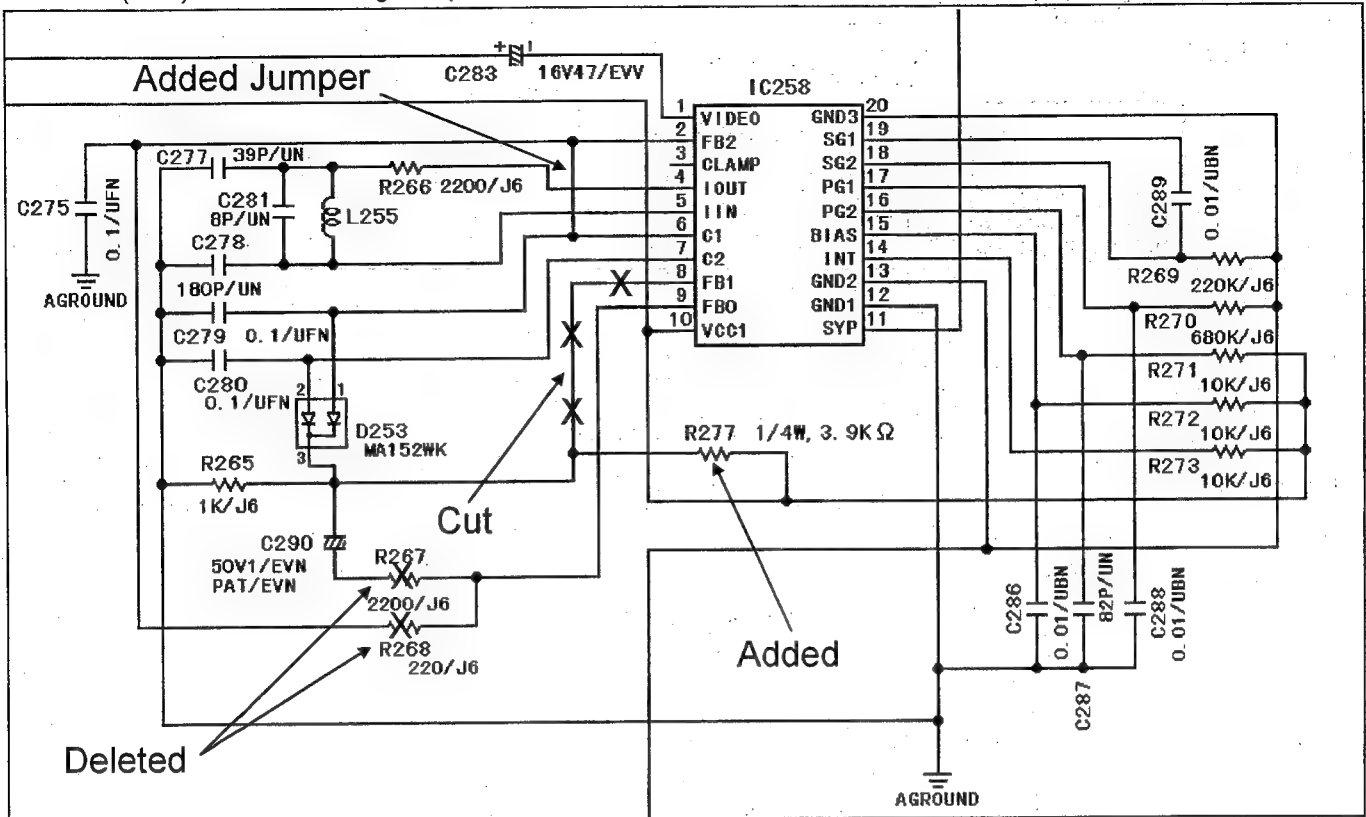


Fig. 3 Page 2-89

F6 V IN (11/18) Schematic Diagram (VEP83341A/VEP83355B/VEP83398A)

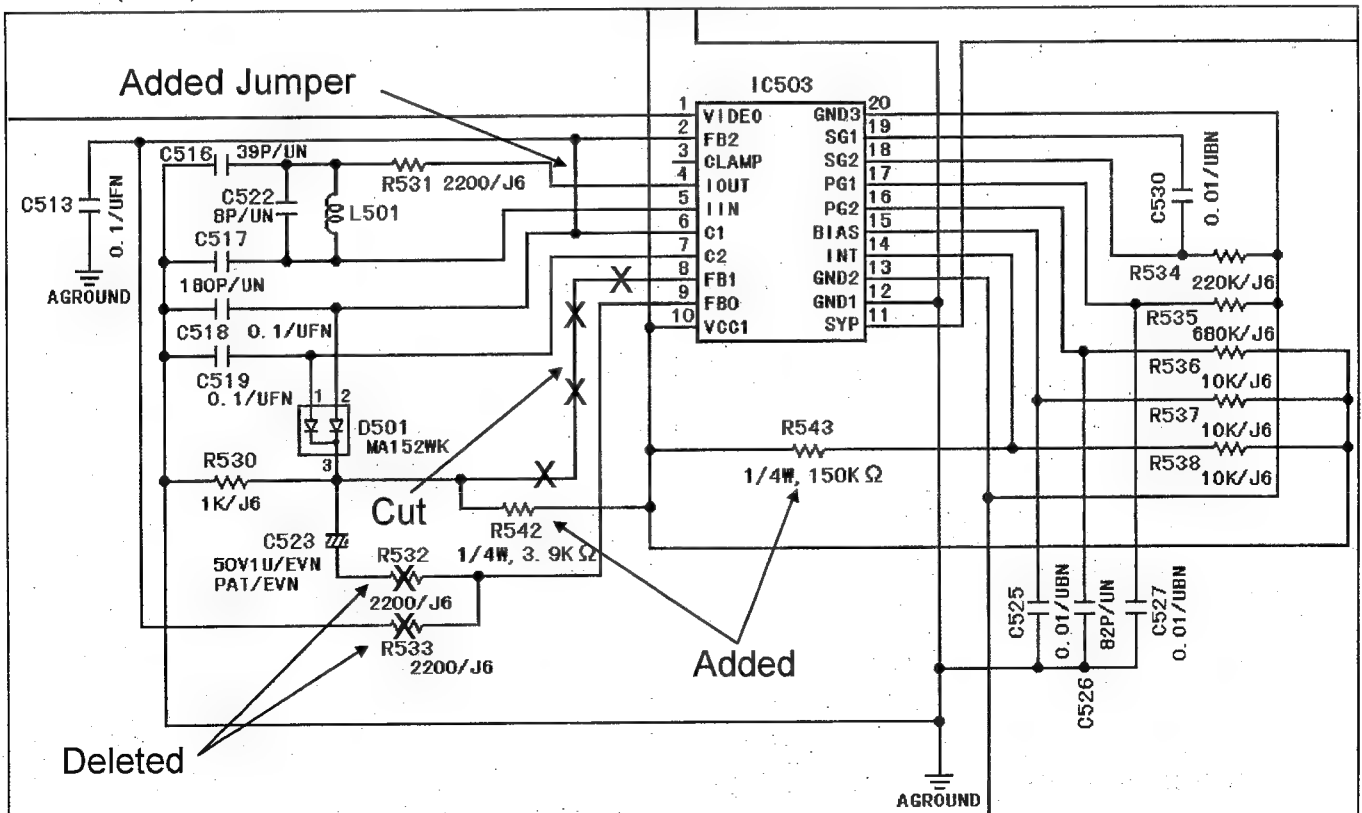


Fig. 4 Page 2-94

F6 V IN P.C. Board (VEP83341A/83355B/83398A)

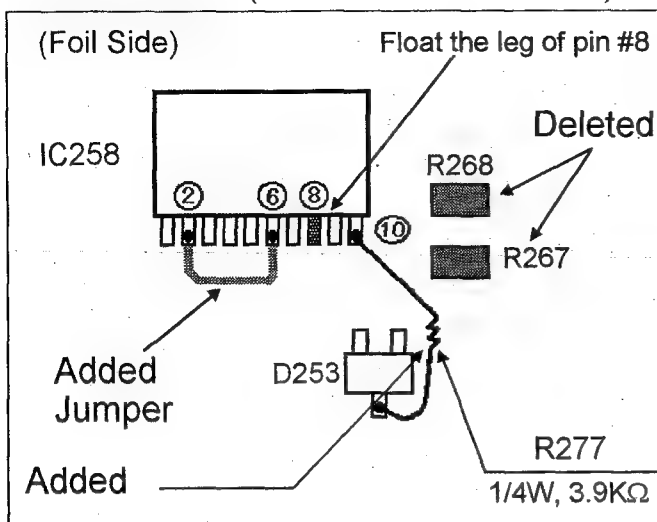


Fig. 5 Page 3-7 (I-4)

F6 V IN P.C. Board (VEP83398A)

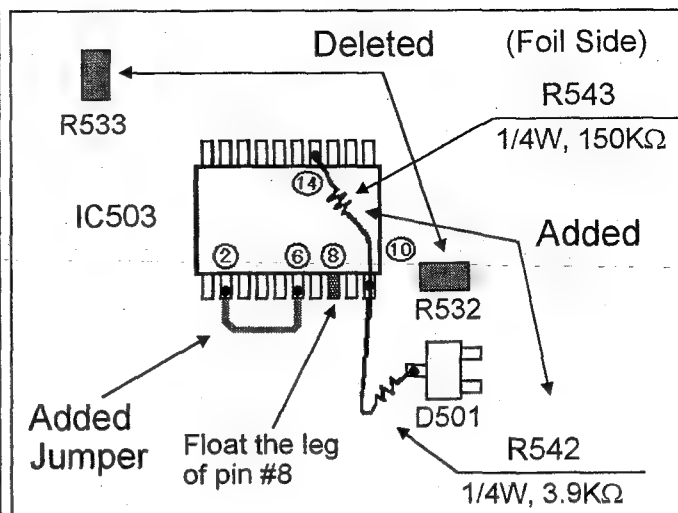


Fig. 6 Page 3-7 (G-3)

F6 V IN P.C. Board (VEP83398A)

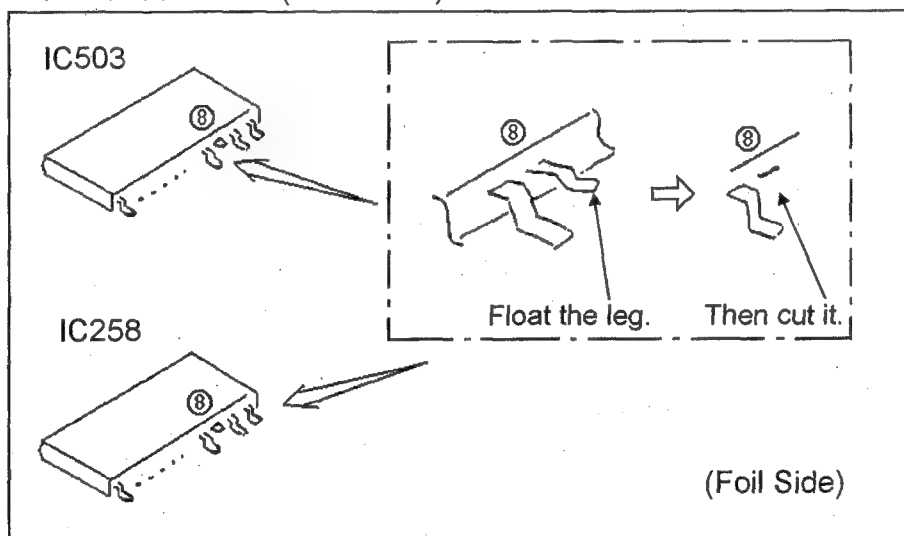


Fig. 7 Page 3-7 (I-4)

F6 V IN P.C. Board (VEP83398A)

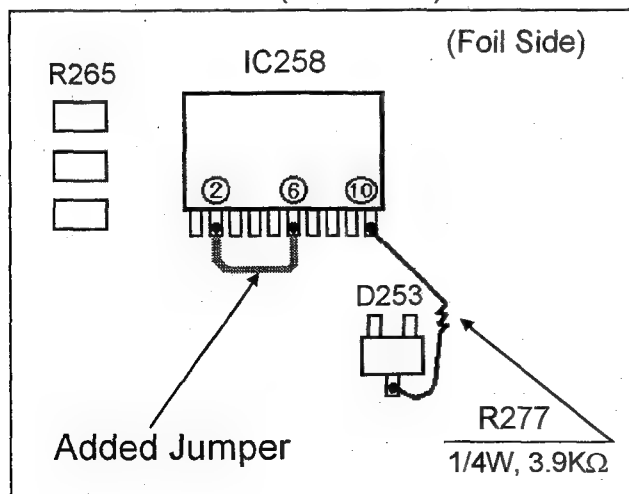


Fig. 8 Page 3-7 (I-4)

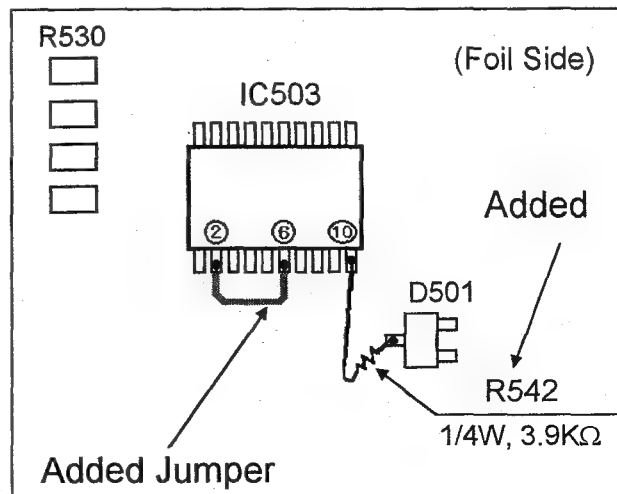


Fig. 9 Page 3-7 (G-3)

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

**Subject : Reduction of Click Sound from Cleaner Solenoid Unit**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	128	VSD9606M502A	K7TRB0001
AJ-D650E	101	VSD9612MJ01A	K7TRA0001
AJ-D640E	101	VSD9612MJ01A	K7TRA0001

### Mechanical Chassis Assembly (2)

Symptom : Click sound may be heard from the Cleaner Solenoid Unit when it functions.

Remedy : To reduce the click sound from the Cleaner Solenoid Unit, the Cleaner Solenoid is changed to the silencer type as shown below.

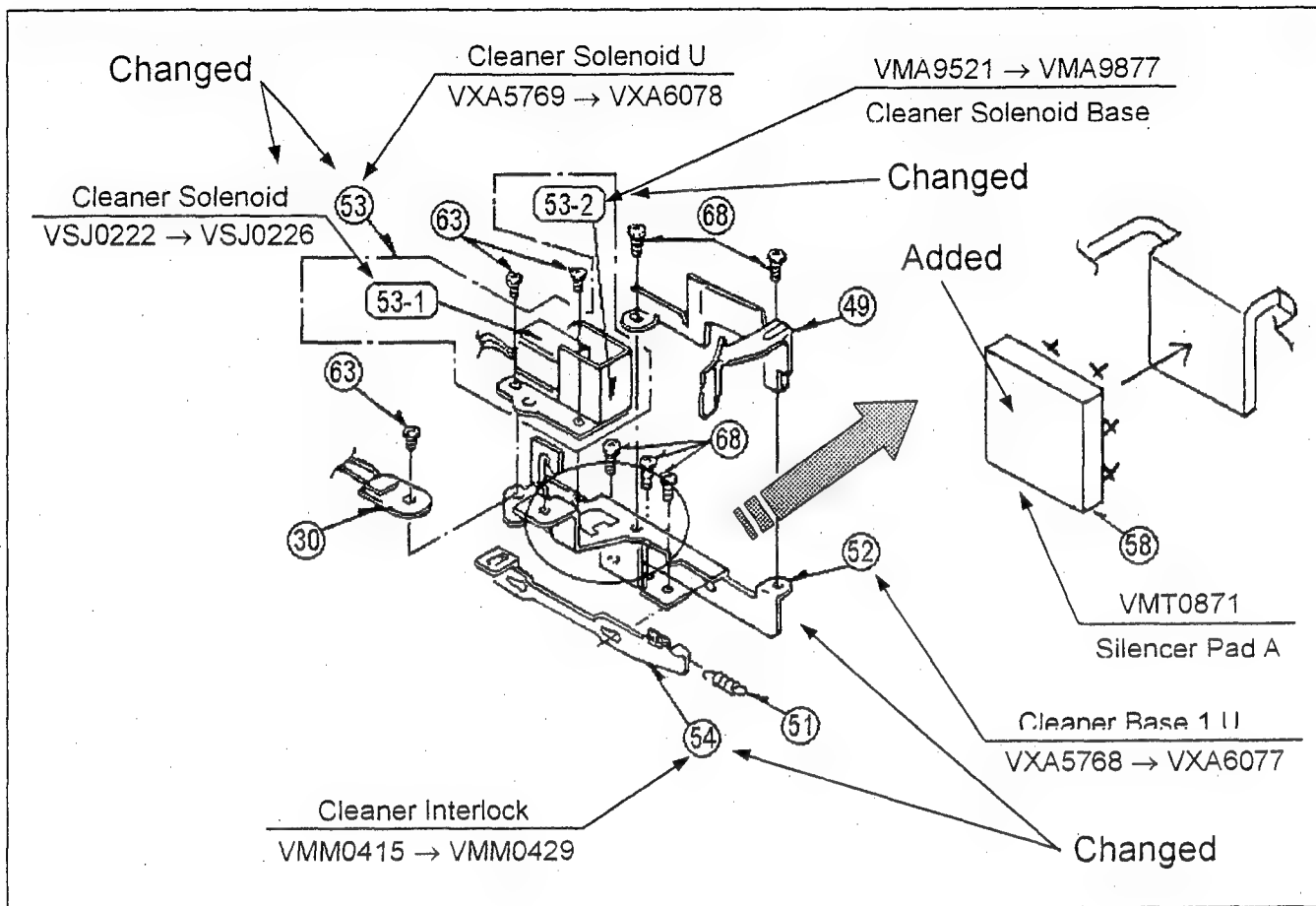
- 1). Change the Cleaner Base 1 Unit from VXA5768 to VXA6077.
- 2). Change the Cleaner Solenoid Unit from VXA5769 to VXA6078.
- 3). Change the Cleaner Solenoid from VSJ0222 to VSJ0226.
- 4). Change the Cleaner Solenoid Base from VMA9521 to VMA9877.
- 5). Change the Cleaner Interlock from VMM0415 to VMM0429.
- 6). Add a Silencer Pad A (VMT0871) to the Cleaner Base 1 Unit by adhesive as shown in figure 1.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
52	VXA5768	VXA6077	CLEANER BASE 1 U	1	
53	VXA5769	VXA6078	CLEANER SOLENOID U	1	
53-1	VSJ0222	VSJ0226	CLEANER SOLENOID	1	
53-2	VMA9521	VMA9877	CLEANER SOLENOID BASE	1	
54	VMM0415	VMM0429	CLEANER INTERLOCK	1	
58	---	VMT0871	SILENCER PAD A	0→1	

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Prevention of M and L Cassettes Mis-detection

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	129	VSD9606M502A	L7TRB0001
AJ-D650E	102	VSD9612MJ01A	L7TRA0001
AJ-D640E	102	VSD9612MJ01A	L7TRA0001

#### Cassette Compartment Assembly

Symptom : M and L cassettes may be detected incorrectly.

Cause : ML Detection Spring may catch in the Cassette Pressure Roller.

Remedy : To prevent it, the ML Detection Spring is changed from VMB3059 to VMB3253 as shown below.

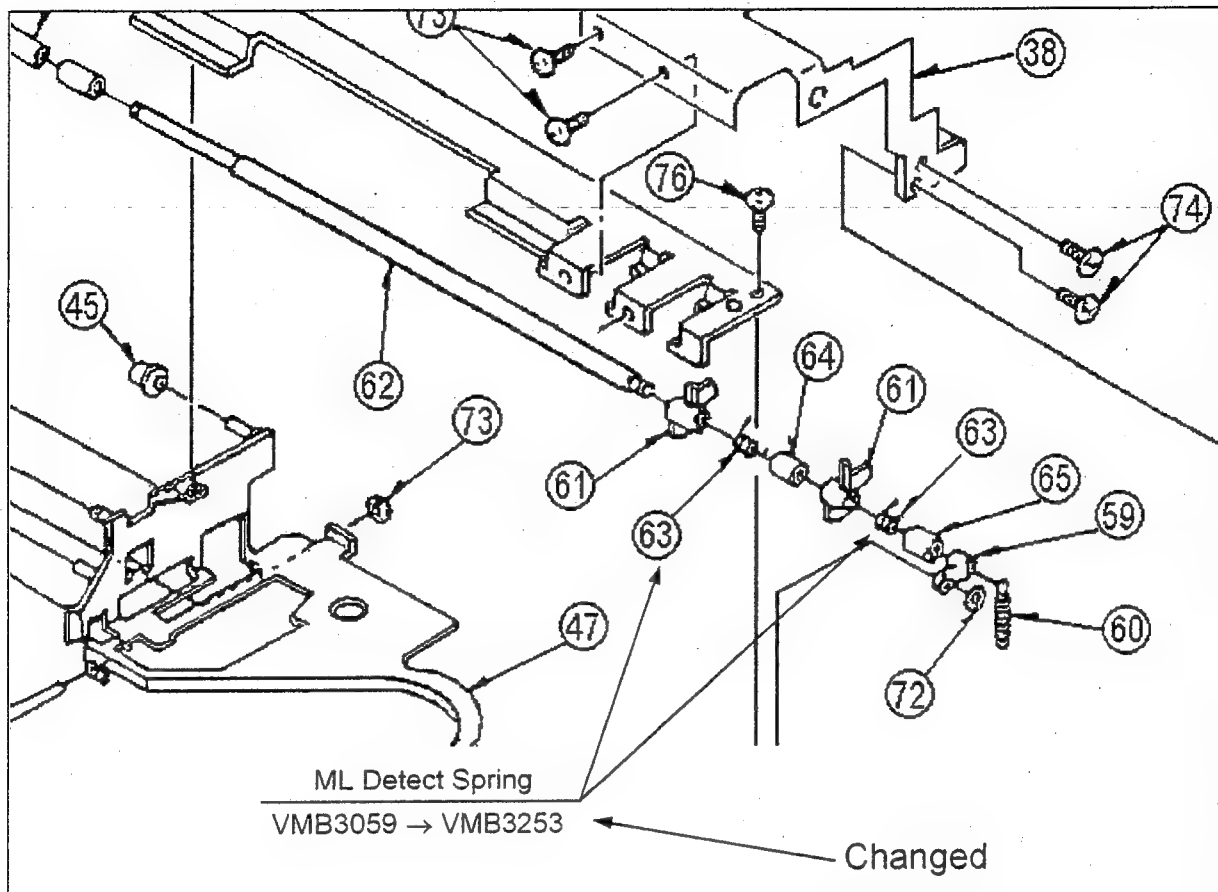
Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
63	VMB3059	VMB3253	ML DETECTION SPRING	2	

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V17726 # 2036083

V18115 # 1017074 ✓

Order No. VSD9806SA736

# Technical Bulletin

## ***Supplement to the Service Manual***

Broadcast Product

### **Subject : Software Version Up Grades**

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	136	VSD9606M502A/B	B8TRB0001
AJ-D650E ✓	108	VSD9612MJ01A/B	B8TRA0001
AJ-D640E ✓	108	VSD9612MJ01A/B	B8TRA0001

Board : REC PB (F5:VEP83353B)

The following software has been up-dated to improve the functioning of the VTR.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC501	M37709M4L162	M37709M4L165	F5 SBC1 PROM Ver. 2.00	1	
IC601	M37709M4L162	M37709M4L165	F5 SBC1 PROM Ver. 2.00	1	

#### < Improvement of Performance >

1. A part of data of the sub code area may become format error. It is corrected.

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Software Version Up Grades

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	109	VSD9612MJ01A/B	D8TRA0001
AJ-D640E	109	VSD9612MJ01A/B	D8TRA0001

Board : Servo (F1:VEP82105B)

System Control (F2:VEP86146E) - AJ-D650

System Control (F2:VEP86146F) - AJ-D640

The following software have been up-dated to improve the functioning of the VTR.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC235	VSI2280K	VSI2280L	F1 SERVO PROM Ver. P1.10	1	
IC702	VSI2399D	VSI2399E	F2 AV PROM Ver. P1.05	1	

#### < TEST MENU >

* SERVO	IC235	:	F1-P1.10	E59B	SYSTEM IC2	:	F2-P1.04	951C	AJ-D650
* AV	IC702	:	F2-P1.05	CE7E	SYSTEM IC2	:	F2-P1.04	0BB0	AJ-D640
FRONT	IC2	:	FP-1.02	6AB2	I/F IC503	:	F2-P1.05	BFBC	AJ-D650
					I/F IC503	:	F2-P1.05	827D	AJ-D640

#### \* Note \*

The hardware modification must be required since the following software version. (Servo/P1.08, System Control/P1.02, Interface/P1.04, AV/P1.03, Front/1.01). When the software is up-graded this time, please confirm the P.C. Board version. If the P.C. Board is not modified, the following modification must be performed.

[ H3 EQ Board ]

Please refer to the Technical Bulletin No. VSD9705SC620.

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## < Improvement of Performance >

### < Servo / AV >

1. Phases of the PCM Audio CH1/CH2 may be shifted when the unit goes to PLAY mode right after the loading completion under following condition.

Operation SETUP Menu No. 103 AUDIO MUTE : OFF

TAPE/EE SW on the Front Panel : TAPE

Servo software version : P1.09

It is improved.

#### \* Note \*

Servo / AV PROM must be up-graded at the same time.

### < Servo >

1. AUTO OFF "WINDUP ERROR" may occur when the L cassette tape which is not recorded is running with X 0.03 mode at the near tape end. It is improved.

### < AV >

1. Phases of the PCM Audio CH1/CH2 may be shifted during DV/DVCAM Playback mode. It is improved.
2. Phases of the PCM Audio CH1/CH2 may be shifted when the unit goes from STOP to PLAY mode selecting EE of the Operation SETUP Menu No. 111 STOP EE SEL. It is improved.

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Software Version Up Grades

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	112	VSD9612MJ01A/B	G8TRA0001
AJ-D640E	112	VSD9612MJ01A/B	F8TRA0141

Board : Servo (F1:VEP82105B)  
 System Control (F2:VEP86146E) - AJ-D650  
 System Control (F2:VEP86146F) - AJ-D640  
 Front CPU (VEP86256A)

The following software have been up-dated to improve the functioning of the VTR.

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
IC235	VSI2280L	VSI2280M	F1 SERVO PROM Ver. P1.11	1	for AJ-D650 for AJ-D640 for AJ-D650 for AJ-D640
IC2	VSI2397D	VSI2397F	F2 SYSTEM PROM Ver. P1.06	1	
IC2	VSI2400D	VSI2400E	F2 SYSTEM PROM Ver. P1.05	1	
IC503	VSI2398E	VSI2398G	F2 I/F PROM Ver. P1.07	1	
IC503	VSI2401E	VSI2401F	F2 I/F PROM Ver. P1.06	1	
IC702	VSI2399E	VSI2399F	F2 AV PROM Ver. P1.06	1	
IC2	VSI2386B	VSI2386C	FRONT PROM Ver. 1.03	1	

#### < TEST MENU >

SERVO	IC235	: F1-P1.11	DA40	SYSTEM IC2	: F2-P1.06	B491	AJ-D650
AV	IC702	: F2-P1.06	7BE1	SYSTEM IC2	: F2-P1.05	4356	AJ-D640
FRONT	IC2	: FP-1.03	0509	I/F IC503	: F2-P1.07	9B5A	AJ-D650
				I/F IC503	: F2-P1.06	528D	AJ-D640

The marked (\*) versions are the devices which have been changed from this software revision.

#### \* Note \*

The hardware modification must be required since the following software version. (Servo/P1.08, System Control/P1.02, Interface/P1.04, AV/P1.03, Front/1.01). When the software is up-graded this time, please confirm the P.C. Board version. If the P.C. Board is not modified, the following modification must be performed.

[ H3 EQ Board ]

Please refer to the Technical Bulletin No. VSD9705SC620.

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# < Additional Function >

## < System Control >

1. 402:DRUM STDBY select function is introduced on the TAPE PROTECT SETUP Menu as follows.  
As the Drum rotation time is accounted during Half Loading mode, it is improved.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
402	DRUM STDBY	0000 0001	OFF ON	This selects the drum operation in the Stand-by OFF mode. 0 : The drum stop rotating. 1 : The drum continues rotating.

2. 403:STOP PROTECT select function is introduced on the TAPE PROTECT SETUP Menu as follows.  
When the Stand-by mode is ON at 5 minutes before ON Air, the unit goes to Stand-by OFF mode because the Still Timer maximum time is 2 minutes. It is improved.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
403	STOP PROTECT	0000 0001	STEP HALF	This selects the operation in the tape protection mode when the unit is left standing in the STOP mode. 0 : STEP FWD 1 : HALF LOADING <b>&lt; Note &gt;</b> When STEP FWD is selected, the unit is automatically transferred to the HALF LOADING mode when the total time during which is left standing in the STOP mode reaches 30 minutes (DVCPRO) or 1 minute (DV/DVCAM).

## < Servo / System Control >

1. 725:CUE SLOW select function is introduced on the AUDIO SETUP Menu as follows.  
To improve the CUE Audio sound during SLOW Playback mode, it is switched to Intermittent Slow and Linear Slow.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
725	CUE SLOW	0000 0001	STEP LINEAR	This selects the tape travel status (CUE track playback status) during SLOW Playback. 0 : Priority is given to the output picture, and tape travel is set to the step feed status. 1 : Priority is given to CUE track Playback, and the tape travel is set to the linear status. <b>&lt; Note &gt;</b> When "1" (LINEAR) has been set: 1. It may not be possible to achieve as clear a picture as in the "STEP" mode. 2. CTL counter may not operate properly.

2. A11:PLAY RESPNS select function is introduced on the Servo Adjust of the Service Menu as follows.  
Rising time shortening from STOP mode to PLAY mode can be available on the Service Menu as follows.

No.	Item	Setting Value	Contents of Setting and Adjustment	Remark
A11	PLAY RESPNS	0000 NORMAL 0001 QUICK	This selects the rising time from the STOP and JOG/VAR/SHTL to PLAY mode. 0 : Rising time is not shortened. 1 : Rising time is shortened.	

## &lt; Note &gt;

The Servo and System Control PROM must be up-graded at the same time.

## &lt; System Control / Interface &gt;

1. 114:REC INHIBIT select function can be available on the OPERATION SETUP Menu as follows.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
114	REC INHIBIT	0000 0001	OFF ON	This selects whether to allow (enable) or prohibit (disable) the recording of signals on the cassette tape. 0 : Signals can be recorded on the cassette tape when the cassette's accidental erasure prevention mechanism is set to the recording enable position. 1 : Recording on the cassette tape is prohibited. In this case, the REC INH lamp on the Front Panel lights.

## &lt; Note &gt;

The System Control and Interface PROM must be up-graded at the same time.

2. Audio Memory Unit (AJ-YA752) can be operated from the RS-232C and the 315:AUD MEM UNIT is introduced on the EDIT SETUP Menu as follows. (Only for AJ-D650)

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
315	AUD MEM UNIT	0000 0001 0002 0003	OFF MODE1 MODE2 MODE3	This selects the connection with the AJ-YA752 Audio Memory Unit. 0 : When the Audio Memory unit is not going to be used 1 : When a Voice-Over operation is to be conducted 2 : When Audio Cross channel editing is to be performed for CH2 3 : When Audio Cross channel editing is to be performed for CH1 <b>&lt; Note &gt;</b> 1. The RS-232C interface will function only when this menu item is set to "0" (OFF). 2. Refer to the Instruction Manual of the AJ-YA752 Audio Memory unit for details on how the modes are used.

## &lt; Note &gt;

When connecting AJ-D750 to Audio Memory Unit (AJ-YA752), make the setting as follows.

- Voice Over Editing
  1. Set AUDIO INPUT SELECT to ANALOG.
  2. Set TC SW to INT.
  3. When operating with the Editing Controller, set CONTROL SW to REMOTE.
  4. Set the SETUP Menu No. 315:AUD MEM UNIT to 0001 (MODE1).

- Cross-fade Editing
 

Recording of audio signal cross-faded to CH2

  1. Set AUDIO INPUT SELECT to ANALOG.
  2. Set TC SW to INT.
  3. Set CONTROL SW to REMOTE.
  4. Set the SETUP Menu No. 315:AUD MEM UNIT to 0002 (MODE2).

Recording of audio signal cross-faded to CH1

1. Set AUDIO INPUT SELECT to ANALOG.
2. Set TC SW to INT.
3. Set CONTROL SW to REMOTE.
4. Set the SETUP Menu No. 315:AUD MEM UNIT to 0003 (MODE3).

< System Control / Front >

1. Setup Menu Lock function (30:MENU LOCK) is introduced on the SYSTEM SETUP Menu as follows.

< Note >

When the above Menu setting is changed, the allowance or prohibit of Setup Menu change can be available. This setting can only be saved after closing the menu during pressing the SET key or MENU key.

2. User Menu Lock function (A03:MENU LOCK) is introduced on the SETUP Menu as follows.  
USER2, USER3, USER4 and USER5 files are locked but USER1 file cannot be locked.

< Note >

When the above Menu setting is changed, the allowance or prohibit of Setup Menu change can be available. This setting can only be saved after closing the menu during pressing the SET key. It cannot be saved after closing the menu during pressing the MENU key.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
30	MENU LOCK	0000 0001	OFF ON	This selects whether the system file lock mode is to be engaged or released. 0 : The lock is released (file data can be changed) 1 : The lock is engaged (file data cannot be changed)
A03	MENU LOCK	0000 0001	OFF ON	This selects whether to set or release the user file (USER2 - USER5) lock mode. 0 : The lock is released (changes can be made). 1 : The lock is set (changes are prohibited). < Note > The lock cannot be set for USER1.

3. User Menu LOAD/SAVE functions (A00:LOAD, A01:SAVE) are introduced only on the USER1 of SETUP as follows.

< Note 1 >

Setting which selects A00:LOAD or A01:SAVE is not backed up. When the power is turned ON, the initial setting is always USER2. When the setting is changed after power ON, the changed setting is displayed.

< Note 2 >

When selected A01:SAVE, user file which set the MENU LOCK is not displayed on the Menu and the unlocked file which is smallest number file within USER2 ~ USER5 is displayed. When all files is locked the setting, "LOCKED" is displayed.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
A00	LOAD	0000 0001 0002 0003	USER2 USER3 USER4 USER5	This selects the user file whose contents will be loaded into USER1. 0 : The USER2 file contents are loaded. 1 : The USER3 file contents are loaded. 2 : The USER4 file contents are loaded. 3 : The USER5 file contents are loaded. < Note > When the SET button is pressed after loading, the setting will be stored in the memory. When the menu button is pressed, setting will not be changed.
A01	SAVE	0000 0001 0002 0003 0004	USER2 USER3 USER4 USER5 LOCKED	This selects the user file into which the USER1 setting will be saved. 0 : The settings are saved in USER2. 1 : The settings are saved in USER3. 2 : The settings are saved in USER4. 3 : The settings are saved in USER5. 4 : This display appears when all user files are in the change prohibit status.



Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
				<b>&lt; Notes &gt;</b> 1. User files whose status have been set to change prohibit cannot be selected. 2. When all user files are in the change prohibit status, the "LOCKED" display appears and the contents cannot be saved.

4. Power ON LOAD function (A02:P. ON LOAD) is introduced only on the USER1 of SETUP Menu as follows. When the power is turned ON, the appointed user file is loaded to USER1 and then started the USER1 setting.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
A02	P.ON LOAD	0000	OFF	This loads the contents of the selected user file into USER1 and it starts operation with the USER1 settings when the power is turned on. 0 : Operation is started with the settings of the previously set user file. 1 : The contents of USER2 are loaded into USER1 and operation is started with the USER1 settings. 2 : The contents of USER3 are loaded into USER1 and operation is started with the USER1 settings. 3 : The contents of USER4 are loaded into USER1 and operation is started with the USER1 settings. 4 : The contents of USER5 are loaded into USER1 and operation is started with the USER1 settings.
		0001	USER2	
		0002	USER3	
		0003	USER4	
		0004	USER5	

**< Note >**

The System Control and Front PROM must be up-graded at the same time to operate the following Menu.  
 30 : MENU LOCK, A00 : LOCK, A01 : SAVE, A02 : P.ON LOAD, A03 : MENU LOCK

**< Servo / System Control / Interface >**

1. Stop response from PLAY/SHTL mode to STOP mode is improved. 115:STOP RESPNS is introduced on the OPERATION SETUP Menu as follows.

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
115	STOP RESPNS	0000	NORMAL	This selects the response when the mode is changed to STOP/STILL while the tape is traveling. 0 : Priority is given to the output picture. 1 : Priority is given to the response.
		0001	QUICK	
				<b>&lt; Notes &gt;</b> 1. At the "1" (QUICK) setting, the picture may not be as clear in the STOP/STILL mode as it would be at the "0" (NORMAL) setting. 2. CTL may shift by $\pm 2$ frames.

**< Note >**

The Servo, System Control and Interface PROM must be up-graded at the same time.

2. 108:FORMAT SEL switching can be available when the tape is not ejected. When the setting mode of FORMAT SEL and the cassette size are different from the active format, the unit goes to STAND-BY OFF mode and the FORMAT can be switched.

< System Control / Interface / Front >

1. VAR/JOG speed select function is changed as follows to operate easy.
  - 1). The following Menus (300:VAR RANGE and 314:JOG RANGE) are deleted.
  - 2). To set the optional maximum speed, the following Menus are added as follows.
    - 317 : VAR FWD MAX
    - 318 : VAR REV MAX
    - 320 : JOG FWD MAX
    - 321 : JOG REV MAX
  - 3). To select the speed and picture quality, the following Menus are added as follows.
    - 316 : VAR STEP (FINE/COARSE)
    - 319 : JOG STEP (FINE/COARSE)

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
316	VAR STEP	0000 0001	FINE COARSE	<p>This selects the VAR speed during Remote Control operations.</p> <p>0 : The tape is played at the fine step speed.</p> <p>1 : The tape is played at a speed at which noise-less playback is possible in the -0.43X to +1X (-0.5X to +1X) range.</p> <p>&lt; Notes &gt;</p> <p>1. The tape will be played at the speed given in parentheses in the DV/DVCAM mode.</p> <p>2. At the "1" (COARSE) setting, the phase cannot be synchronized from the editing controller.</p>
317	VAR FWD MAX	0000 0001 0002 0003 0004 0005 0006 0007 0008	+4.1 +1.85 +1 +0.75 +0.5 +0.3 +0.2 +0.1 +0.03	<p>This sets the maximum VAR FWD speed.</p> <p>0 : +4.1X (In DV format, +3.1X) speed</p> <p>1 : +1.85X (In DV format, +1.85X) speed</p> <p>2 : +1X (In DV format, +1X) speed</p> <p>3 : +0.75X (In DV format, +0.5X) speed</p> <p>4 : +0.5X (In DV format, +0.5X) speed</p> <p>5 : +0.3X (In DV format, +0.3X) speed</p> <p>6 : +0.2X (In DV format, +0.2X) speed</p> <p>7 : +0.1X (In DV format, +0.1X) speed</p> <p>8 : +0.03X (In DV format, +0.03X) speed</p> <p>&lt; Notes &gt;</p> <p>1. The tape will be played at the speed given in parentheses in the DV/DVCAM mode.</p> <p>2. In the DV/DVCAM mode, the maximum speed is set to +1X when the dial on the front panel is operated.</p> <p>3. At any speed setting other than 0 (+4.1X), the phase cannot be synchronized from the editing controller.</p>
318	VAR REV MAX	0000 0001 0002 0003 0004 0005 0006 0007	-4.1 -1.85 -1 -0.43 -0.3 -0.2 -0.1 -0.03	<p>This sets the maximum VAR REV speed.</p> <p>0 : -4.1X (In DV format, -3.1X) speed</p> <p>1 : -1.85X (In DV format, -1.85X) speed</p> <p>2 : -1X (In DV format, -1X) speed</p> <p>3 : -0.43X (In DV format, -0.5X) speed</p> <p>4 : -0.3X (In DV format, -0.3X) speed</p> <p>5 : -0.2X (In DV format, -0.2X) speed</p> <p>6 : -0.1X (In DV format, -0.1X) speed</p> <p>7 : -0.03X (In DV format, -0.03X) speed</p> <p>&lt; Notes &gt;</p> <p>1. The tape will be played at the speed given in parentheses in the DV/DVCAM mode.</p> <p>2. In the DV/DVCAM mode, the maximum speed is set to -0.5X when the dial on the front panel is operated.</p>

Item		Setting		Description
No.	Superimposed Display	No.	Superimposed Display	
319	JOG STEP	0000 0001	FINE COARSE	<p>This selects the JOG speed during Remote Control operations.</p> <p>0 : The tape is played at the fine step speed.</p> <p>1 : The tape is played at a speed at which noise-less playback is possible in the -0.43X to +1X (-0.5X to +1X) range.</p> <p>&lt; Notes &gt;</p> <p>1. The tape will be played at the speed given in parentheses in the DV/DVCAM mode.</p> <p>2. At the "1" (COARSE) setting, the phase cannot be synchronized from an editing controller which synchronizes the phase using the JOG command.</p>
320	JOG FWD MAX	0000 0001 0002	+4.1 +1.85 +1	<p>This sets the maximum JOG FWD speed.</p> <p>0 : +4.1X (In DV format, +3.1X) speed</p> <p>1 : +1.85X (In DV format, +1.85X) speed</p> <p>2 : +1X (In DV format, +1X) speed</p> <p>&lt; Notes &gt;</p> <p>1. The tape will be played at the speed given in parentheses in the DV/DVCAM mode.</p> <p>2. The maximum speed is set to +1X when the dial on the front panel is operated.</p> <p>3. At any speed setting other than 0 (+4.1X), the phase cannot be synchronized from the editing controller which synchronizes the phase using the JOG command.</p>
321	JOG REV MAX	0000 0001 0002 0003	-4.1 -1.85 -1 -0.43	<p>This sets the maximum JOG REV speed.</p> <p>0 : -4.1X (In DV format, -3.1X) speed</p> <p>1 : -1.85X (In DV format, -1.85X) speed</p> <p>2 : -1X (In DV format, -1X) speed</p> <p>3 : -0.43X (In DV format, -0.5X) speed</p> <p>&lt; Notes &gt;</p> <p>1. The tape will be played at the speed given in parentheses in the DV/DVCAM mode.</p> <p>2. When the dial on the front panel is operated, the maximum speed is set to -1X in the DVCPR mode and - to 0.5X in DV/DVCAM mode.</p>

## &lt; Note &gt;

The setting value of the VAR/JOG speed range is changed according to the System Control software version as follows.

\* In case of System Control software version is less than P1.03

Current Menu	Speed Setting (0000 : -.43X ~ 1X)		Speed Setting (0001 : -4X ~ +4X)	
	New Menu		New Menu	
300 : VAR RANGE	316 : VAR STEP	0001 : COARSE	316 : VAR STEP	0000 : FINE
	317 : VAR FWD MAX	0002 : +1X	317 : VAR FWD MAX	0000 : +4.1X
	318 : VAR REV MAX	0003 : - 0.43X	318 : VAR REV MAX	0000 : - 4.1X
	319 : JOG STEP	0001 : COARSE	319 : JOG STEP	0000 : FINE
	320 : JOG FWD MAX	0002 : +1X	320 : JOG FWD MAX	0000 : +4.1X
	321 : JOG REV MAX	0003 : - 0.43X	321 : JOG REV MAX	0000 : - 4.1X

**\* In case of System Control software version is more than P1.03**

Current Menu	Speed Setting (0000 : -.43X ~ 1X)		Speed Setting (0001 : -4X ~ +4X)	
	New Menu		New Menu	
300 : VAR RANGE	316 : VAR STEP	0001 : COARSE	316 : VAR STEP	0000 : FINE
	317 : VAR FWD MAX	0002 : +1X	317 : VAR FWD MAX	0000 : +4.1X
	318 : VAR REV MAX	0003 : - 0.43X	318 : VAR REV MAX	0000 : - 4.1X
314 : JOG RANGE	319 : JOG STEP	0001 : COARSE	319 : JOG STEP	0000 : FINE
	320 : JOG FWD MAX	0002 : +1X	320 : JOG FWD MAX	0000 : +4.1X
	321 : JOG REV MAX	0003 : - 0.43X	321 : JOG REV MAX	0000 : - 4.1X

#### < Improvement of Performance >

##### < Servo >

1. Cylinder control phase response is improved.
2. When the tape is wound from no recorded portion, the picture is not renewed regularly. It is improved.
3. When the tape goes to no prepared portion for editing during INSERT Edit mode, it is recorded. It is improved. When above condition, servo is unlocked.
4. AUTO OFF "WINDUP\_ERROR" may occur during REV mode. It is improved.
5. When the unit goes to Short FF mode after REW mode, the remaining time is cleared. It is improved.
6. Abnormal sound may occur during X-9.5 mode. It is improved.
7. When the tape is loaded at the beginning of the L cassette tape, tape may loosen after loading completion. It is improved.

##### < System Control >

1. Rising time of PCM Audio from STILL mode to PLAY mode is too late. It is improved.
2. When the tape is inserted after detecting the DEW (AUTO OFF) during EJECT mode, the unit does not detect the tape end/beginning. It is improved.

##### < AV >

1. When the input signal is BLACK during SDI IN mode, the input level meter is swung. It is improved.
2. Audio pop noise may occur when the tape is recorded on the DVCPRO Studio VTR. It may occur during INT BB REC mode. It is improved.
3. FULL EE control from the Editing Controller cannot be performed during Search mode (VTR side). It is improved.
4. Audio noise may appear when the mode is changed from no REF IN signal to REF IN signal during 304 : SERVO REF is EXT. It is improved. Audio output is muted for 2 seconds.

##### < Interface >

1. OSF/OSR for the SHTL command of RS-232C is not accepted. It is improved.
2. When the AUTO OFF "DEW" is occurred again after occurring "DEW", the "DEW" is displayed on the Front Panel not but on the Superimpose. It is improved.
3. When the Recorder side is used AU-650B and the Player side is used AJ-D750 in the deck to deck Editing mode, the synchronization cannot be performed while using the DV tape with the Player side. (AJ-D750) It is improved.

##### < Front >

1. When the power is turned ON, "INITIAL SET" and "EJECT" are only displayed and the other LED and level meter are not displayed. And the operation keys are not functioned. It is improved.
2. TCG (UBG) does not go to PRESET mode during displaying the Remain time. It is improved.

## &lt; Servo / System Control &gt;

1. When the FORMAT SEL is selected the DVCPRO during inserting the L cassette ME tape, STILL time becomes long, and then the head clogging may occur. When the CTL is not detected, STILL timer is shortened.

## &lt; System Control / Front &gt;

1. Picture quality is improved during SHTL mode.

## &lt; System Control / Interface / Front &gt;

1. When the power is turned OFF to ON, UBG value is reset to "00:00:00:00". It is backed up.

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Pinch Roller

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	144	VSD9606M502A	C8TRB0001
AJ-D650E	116	VSD9612MJ01A	C8TRA0001
AJ-D640E	116	VSD9612MJ01A	C8TRA0001

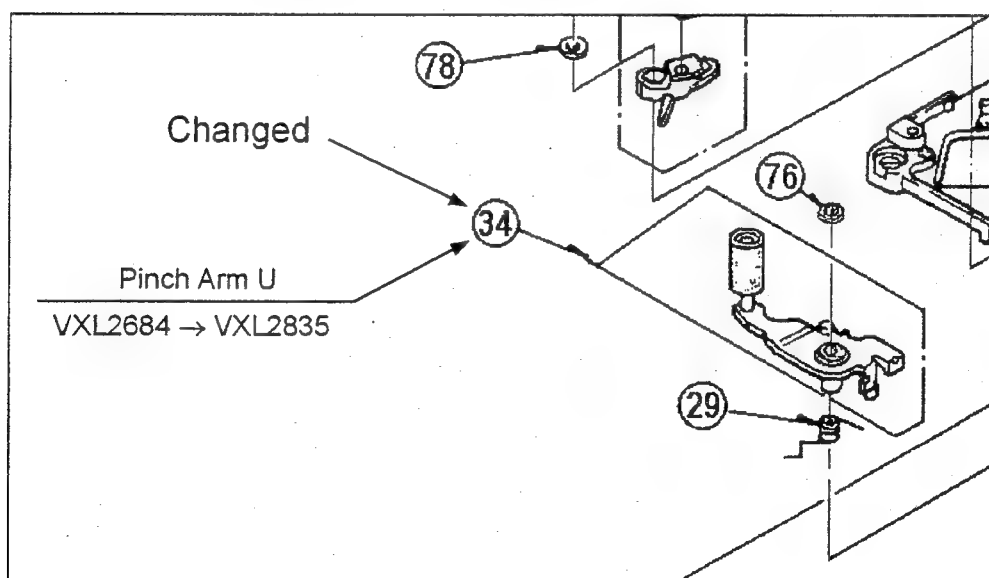
#### Mechanical Chassis Assembly (2)

Symptom : Pinch Roller may be cracked.

Cause : Due to the lack of plasticizer from the Pinch Roller rubber and atmosphere. (Ozone) It results in Pinch Roller crack.

Remedy : To prevent it, the Pinch Arm Unit is changed from VXL2684 to VXL2835 as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
34	VXL2684	VXL2835	PINCH ARM U	1	



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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Improvement of Main Cam Arm Unit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	146	VSD9606M502A	D8TRB0001
AJ-D650E	117	VSD9612MJ01A	D8TRA0001
AJ-D640E	117	VSD9612MJ01A	D8TRA0001

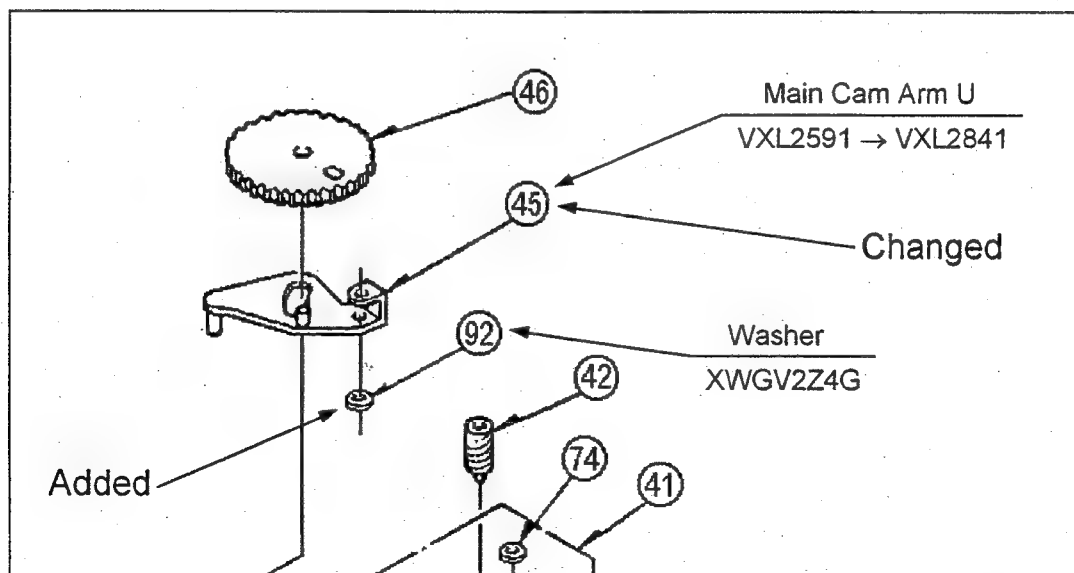
#### Mechanical Chassis Assembly (2)

Symptom : U-shaped portion of the Main Cam Arm Unit may be broken when the loading is repeated.

Cause : Due to the lack of material strength.

Remedy : To prevent it, the Main Cam Arm Unit is changed from VXL2591 to VXL2841 and the washer (XWGV2Z4G) is added under the Main Cam Arm Unit as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
45	VXL2591	VXL2841	MAIN CAM ARM U	1	
92	—	XWGV2Z4G	WASHER	0→1	



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V18115 # 1019074

U23053 # 1036071

Order No. VSD9810SC642

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Expansion of Variable Range of SYS SC FINE

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	125	VSD9612MJ01A/B	G8TRA0001
AJ-D640E	125	VSD9612MJ01A/B	G8TRA0001
AJ-D780E	5	VSD9809M612A/B	G8TRA0001

Board : V OUT (F4:VEP83352B) – AJ-D640/D650  
 V OUT (F4:VEP83352E) – AJ-D780

Symptom : 1). Total variable range of SYS SC FINE is less than  $\pm 90$  degrees.  
 2). Burst Adjustment (Electrical Adjustments item 7-11.) cannot be performed.

Cause : 1). Variable range of the control DC voltage for SYS SC FINE is narrow.  
 2). The dispersion of offset voltage for the VCO X901 is broad.

Remedy : 1). The value of R1010 has been changed from 1/16W, 1.5K $\Omega$  to 1/16W, 2.2K $\Omega$  on the foil side.  
 2). a). The value and tolerance of R921 and R922 have been changed from 1/16W, 10K $\Omega$  to 1/16W, 1K $\Omega$  on the foil side.  
 b). R950 (1/4W, 27K $\Omega$ ) has been added between pin #3 of IC916 and R920 on the foil side.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R921, 922	ERJ3GEYJ103	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2	
R950	-----	ERDS2TJ273	C. RESISTOR 1/4W 27K	0→1	
R1010	ERJ3GEYJ152	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	

After doing the above modification, Burst Adjustment (Electrical Adjustments item 7-11.) should be performed.

- \* When total variable range of SYS SC FINE is still less than  $\pm 90$  degrees after doing the above modification, change the value of R950 to 12 k $\Omega$  (ERDS2TJ123). And confirm that total variable range of SYS SC FINE is more than  $\pm 90$  degrees after re-adjusting Burst Adjustment.
- \* If total variable range of SYS SC FINE is still less than  $\pm 90$  degrees after changing the value of R950 to 12 k $\Omega$ , delete R950. And confirm that total variable range of SYS SC FINE is more than  $\pm 90$  degrees after re-adjusting Burst Adjustment.

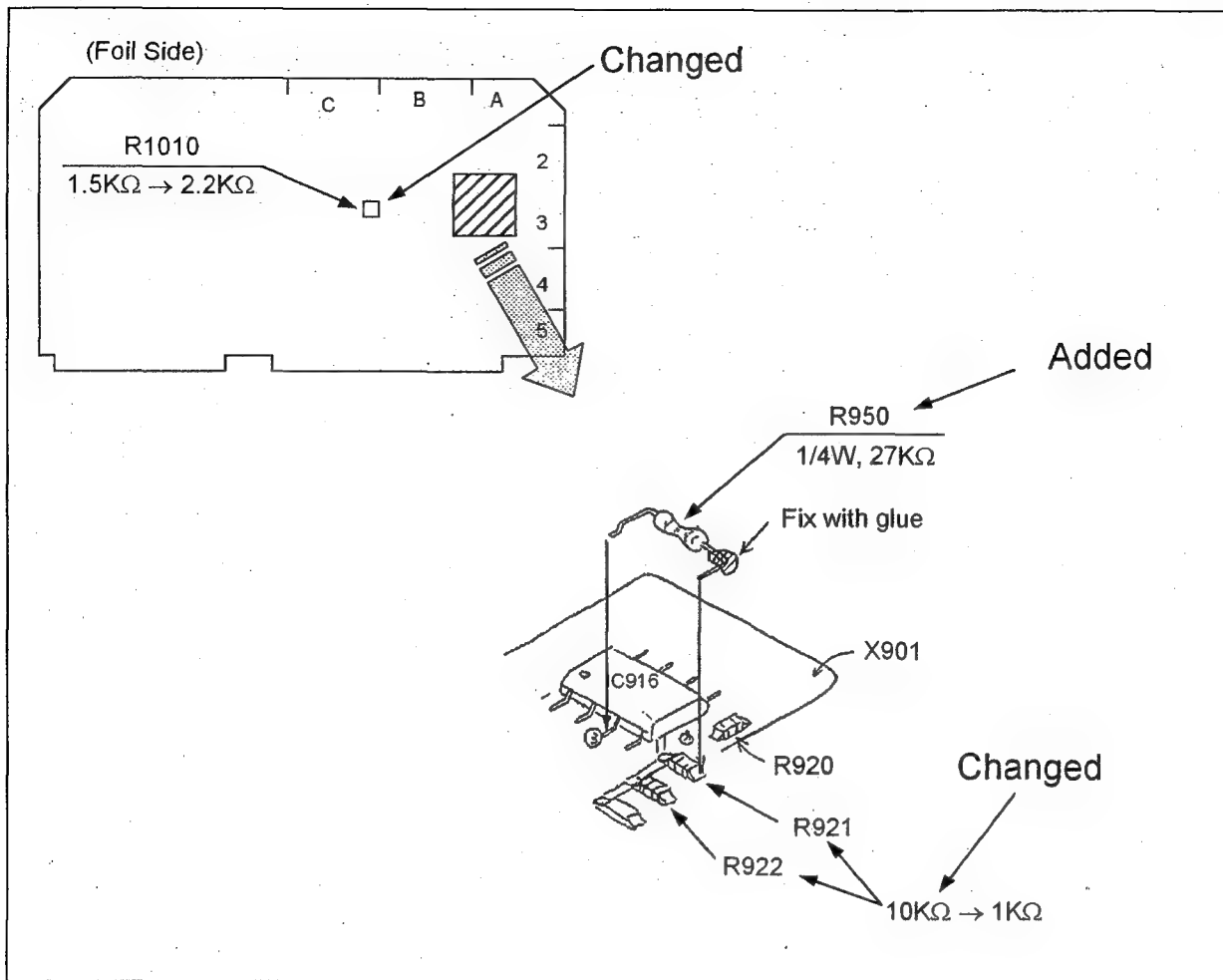
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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Software Version Up Grade

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	129	VSD9612MJ01A/B	J8TRA0001
AJ-D640E	129	VSD9612MJ01A/B	J8TRA0001

Board : Servo (F1:VEP82105B)

The following software has been up-dated to improve the functioning of the VTR.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC235	VSI2280M	VSI2280N	F1 SERVO PROM Ver. P1.12	1	

#### < TEST MENU >

SERVO	IC235	:	F1-P1.12	0ADC	SYSTEM IC2	:	F2-P1.06	B491	AJ-D650
AV	IC702	:	F2-P1.06	7BE1	SYSTEM IC2	:	F2-P1.05	4356	AJ-D640
FRONT	IC2	:	FP-1.03	0509	I/F	IC503	:	F2-P1.07	9B5A
					I/F	IC503	:	F2-P1.06	528D
									AJ-D650
									AJ-D640

The marked (\*) versions are the devices which have been changed from this software revision.

#### \* Note \*

The hardware modification must be required since the following software version. (Servo/P1.08, System Control/P1.02, Interface/P1.04, AV/P1.03, Front/1.01). When the software is up-graded this time, please confirm the P.C. Board version. If the P.C. Board is not modified, the following modification must be performed.

[ H3 EQ Board ]

Please refer to the Technical Bulletin No. VSD9705SC620.

#### < Improvement of Performance >

##### < Servo >

1. AUTO OFF "WINDUP ERROR" may occur when the L184 (L cassette) tape is run in the DV or DVCAM mode right after power ON. It is improved.

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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Countermeasure for No Video Condition during Power ON/OFF

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D650E	130	VSD9612MJ01A/B	L8TRA0001
AJ-D640E	130	VSD9612MJ01A/B	L8TRA0001
AJ-D780E	12	VSD9809M612A/B	L8TRA0001

Board : V OUT (F4:VEP83352B) – AJ-D640/D650  
 V OUT (F4:VEP83352E) – AJ-D780

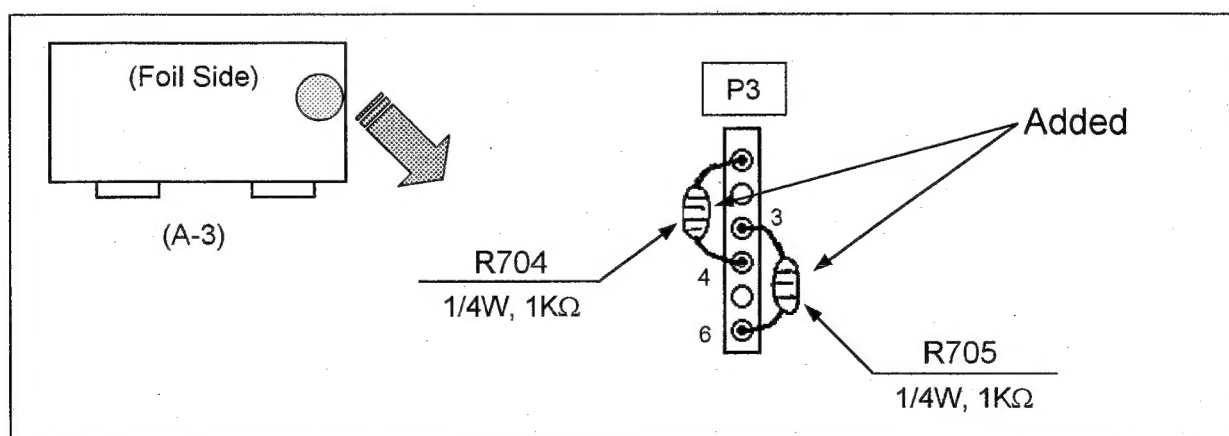
Symptom : Picture may become no video condition when the power is turned ON/OFF repeatedly.

Cause : PLD on the F4 V OUT Board may malfunction by the noise from power supply due to the ISP terminal open.

Remedy : To prevent it, the following modification is performed.

- 1). Resistor R704 (1/4W, 1K $\Omega$ ) is added between pins #1 and #4 of P3 on the foil side as shown below.
- 2). Resistor R705 (1/4W, 1K $\Omega$ ) is added between pins #3 and #6 of P3 on the foil side as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R704, 705	---	ERDS2TJ102	C. RESISTOR 1/4W 1K	0→2	



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# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Strengthening GND of Power Unit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	166	VSD9606M502A/B	B9TRB0001
AJ-D650E ✓	134	VSD9612MJ01A/B	B9TRA0001
AJ-D640E ✓	134	VSD9612MJ01A/B	B9TRA0001

Board : Power 2 (VEP81075B)

Symptom : When power is turned on, power supply circuit may fail to start up.

Cause : The detection circuit of over-voltage operates for noise at starting up of power supply circuit.

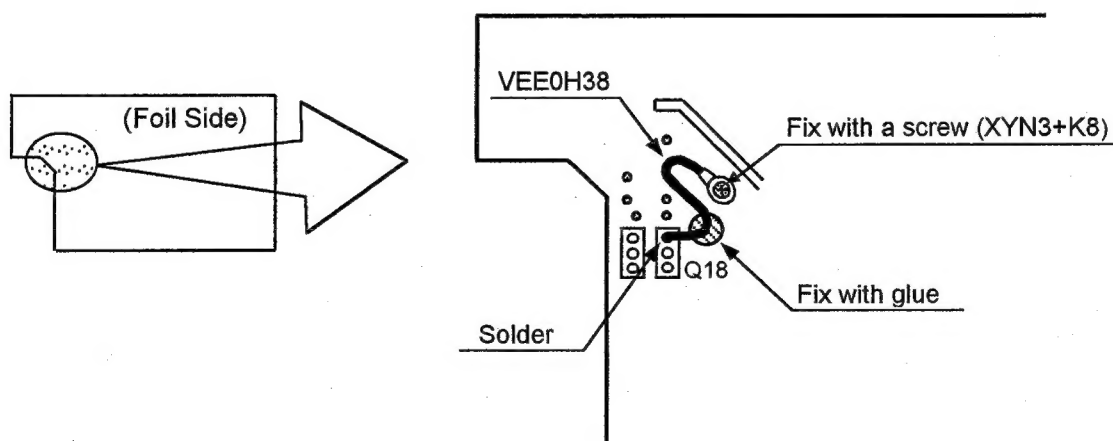
Remedy : A jumper wire has been added to strengthen GND of Power 2 circuit.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
	—	VEE0H38	JUMPER WIRE	0→1	
	XYN3+C8FZS	XYN3+K8	SCREW	1	

#### Installation of jumper wire

1. Exchange the screw (XYN3+C8FZS) fixing the heat sink with XYN3+K8 and fix a jumper wire (VEE0H38) to the heat sink with this new screw.
2. Solder the jumper wire as shown below.
3. Fix the jumper wire with glue as shown below.

Note. Be careful so that the jumper wire doesn't pass on the leg of component.



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V18115

Order No. VSD9908SA788

# Technical Bulletin

## Supplement to the Service Manual

Broadcast Product

### Subject : Change of Cassette Compartment Assembly

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D750E/EN	178	VSD9606M502A ✓	Running change
AJ-D850E	15	VSD9903M901A ✓	Running change
AJ-D650E	144	VSD9612MJ01A ✓	Running change
AJ-D640E	144	VSD9612MJ01A ✓	Running change
AJ-D450E	4	VSD9907M904A ✓	Running change
AJ-D440E	4	VSD9907M904A ✓	Running change
AJ-D230E	87	VSD9708M605 ✓	Running change
AJ-D230HE	5	VSD9906M605 ✓	Running change
AJ-LT75E	82	VSD9707M602A ✓	Running change
AJ-LT85E	15	VSD9902M601A ✓	Running change
AJ-D780E	23	VSD9809M612A ✓	Running change

#### Cassette Compartment Assembly

The parts shown below have been changed for standardization.

V17726 # 2036083  
 V24149 # 2022072  
 ✓ V18115 # 1017074  
 V24902 # 2023119  
 V20162 # 2019141  
 V24833 # 2011104  
 V19322 # 1030051

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
4	VXA5761	VXA6572	FRONT GUIDE 1 ASS'Y	1	
	XYN2+C3	VHD1323	SCREW	11	See the exploded views in the next page.
	XQN2+A3	VHD1323	SCREW	2	See the exploded views in the next page.

V24079 # 1021081  
 V23053 # 1036071

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# CASSETTE COMPARTMENT ASSEMBLY

